

THE SCHOOL REVIEW

A JOURNAL OF SECONDARY EDUCATION

VOLUME XXXII

MARCH, 1924

NUMBER 3

Educational News and Editorial Comment

THE EDUCATIONAL FINANCE INQUIRY

The first volume of the report of the commission which has been at work for two years investigating school financial conditions in various parts of the country has just been issued by the Macmillan Company. Other volumes are promised to appear in rapid succession.

The appearance of the report makes it appropriate to comment on the very impressive personnel of the commission. Besides the headquarters staff, the members of the commission are: E. C. Brooks, president, North Carolina State College of Agriculture and Engineering; Samuel P. Capen, chancellor, University of Buffalo, director of the American Council on Education and member ex officio until December 1, 1922; Ellwood P. Cubberley, dean, School of Education, Stanford University; Edward C. Elliott, president, Purdue University; Thomas E. Finegan, formerly state superintendent of public instruction, Harrisburg, Pennsylvania; Robert Murray Haig, professor, School of Business, Columbia University; Charles R. Mann, director, American Council on Education and member ex officio since December 1, 1922; Victor Morawetz, attorney at law, New York City; Henry C. Morrison,

professor of education and superintendent of the Laboratory Schools, University of Chicago; George D. Strayer, professor of educational administration and director of the Division of Field Studies, Institute of Educational Research, Teachers College, Columbia University, *chairman* of the commission; and Herbert S. Weet, superintendent of schools, Rochester, New York.

This commission drew its support from four of the foundations—the Commonwealth Fund, the Carnegie Corporation, the General Education Board, and the Milbank Memorial Fund.

Its method of procedure has been to carry on certain regional studies. The centers of such studies have been New York, Illinois, Iowa, and California. In addition to these investigations of state financial systems, certain special topics have been canvassed for the United States as a whole.

The first volume of the report deals with New York State. It canvasses in Part I the problems which arise in financing all phases of public education and in Part II the resources of the state from which support must be drawn. This volume is the special work of George D. Strayer and Robert M. Haig.

This is not the place for a critical treatment of the report. This volume and the subsequent volumes will undoubtedly stimulate a wholesome type of thinking about school finance which has never been possible before because the factual basis has not been at hand in any such comprehensive body of material. There will probably follow a series of discussions in the public press as well as in the technical journals. There will certainly be a new series of courses in colleges of education on school finance and other related aspects of school administration.

As examples of the type of material contained in the first volume of the report, the following paragraphs on high-school costs may perhaps be added with propriety to the foregoing general statements:

The current expense for high schools, per pupil in average daily attendance, is calculated by using the formula already explained. The relation of high school salaries to salaries for the whole school system is used to determine what part of the other non-salary current expenses should be charged to high schools. For example, if high school salaries amount to one-fourth of the total salaries paid by the school system, then one-fourth of all of the other current expenses

are charged against high schools. Increases in the current expenses for high schools from 1911 to 1921 appear in Table 18.

Table 18 is to be read as follows: In first-class cities the average current expense for high schools is \$89 in 1911; \$100 in 1916; and \$183 in 1921. The table shows that current expenses for high schools have approximately doubled during the ten-year period in the cities of the state. The average increase for villages of over 4,500 in population is 60 per cent. In the smaller communities of the state, providing from one to four years of high school education, the expenses for high schools are in the extreme cases higher than any of those reported for the cities or larger villages. For the year 1921, in these union school districts, the high cases showed expenses per pupil in average daily attendance as follows: The four-year union schools \$1,107; three-year union schools \$1,132; two-year union schools \$781; and one-year union schools \$773.

An analysis of expenses in the union school districts shows that these very high costs are due both to the expenses for teachers' salaries and to other current expenses. These small schools have in many cases very small classes. In the communities showing the highest expense, the charge for salaries of teachers ranges from \$520 to \$603 per pupil in average daily attendance. In these same communities the current expense, other than salary, ranges from \$243 to \$786 per pupil in average daily attendance. An analysis of increases in expenses for high schools as between expenses for teachers' salaries and total current expenses appears in Table 19.

Table 19 is to be read as follows: Among the first-class cities, the one showing the lowest cost spent \$43 per pupil for teachers' salaries in 1911, and \$104 for this service in 1921. In the same group the city having the lowest total current expense per pupil in average daily attendance spent \$60 in 1911, and \$161 in 1921. The per cent increase in teachers' salaries between 1911 and 1921 was 142, while the increase in total current expenses was 168 per cent.

The table shows that in most of the cases teachers' salaries increased less rapidly than all current expenses. The same conditions which called for the increases in teachers' salaries apparently increased the cost of the other services and supplies used in high schools.

The wide variation in current expenses of high schools suggests the advisability of careful inquiry, not only as to the excessive costs found in some of the smaller communities, but also as to the quality of the opportunities provided in those schools showing the lowest cost. It is also reasonable to ask whether the educational facilities furnished by the expensive schools could be obtained at a more reasonable cost. There would seem to be some possibility of effecting economy through consolidation.

A COMMUNITY SCORE-CARD

A year ago President Harding organized, by executive order, the Federal Council of Citizenship Training composed of repre-

sentatives from each of the executive departments of the federal government. Its first publication is a pamphlet of thirty-one pages issued by the Bureau of Education, entitled *Community Score Card*.

Attention is called to the availability of this publication as a basis for classroom instruction in citizenship. A list of concrete community virtues is here set down; each item has been weighted after careful consideration by experts. The teacher can be of service to the community by making the score-card a problem for the class in social studies and can at the same time direct the attention of the members of the class to the concrete exhibitions of community life to be found all around them.

The introduction to the pamphlet opens with the following paragraphs:

In formulating and publishing a score card which may be used to bring out conditions existing in different communities with reference to the attitude of their members toward their obligation as citizens and to the opportunities for training in the things pertaining to good citizenship, the Federal Council of Citizenship Training has had in mind the following considerations:

In order to lay a good foundation for future constructive work in any line in a community it is desirable to know its present status as definitely as possible. Such knowledge should include both the good and bad features of existing conditions.

Training for citizenship is often limited in the schools and elsewhere to instruction regarding civic affairs and the obligations of citizens relating thereto. The council has decided to make its program for citizenship training much broader and to include in it whatever relates to mental development, health and physical development, vocational development, nurturing of patriotism, appreciation of our government, and the social and moral development of the individual and the community.

At present in most communities the citizens generally have indistinct and inadequate knowledge regarding many things which affect the life and welfare of the community and make for either good or bad citizenship. Even those persons who are interested in promoting certain features of good citizenship often do not realize the conditions which are impeding their progress and may be wholly ignorant of or indifferent to matters outside the immediate circle of their interests which are vital factors in the promotion or retardation of good citizenship in the community.

In a democracy like our own substantial and permanent advance of a community in any direction can only be made by the voluntary and intelligent action of at least the majority of its members. Leaders, whether acting in

public or private capacities, will not be able to bring about changes in the community thought or activities by their own dicta. They must have the interest and co-operation of the people, acting on their own behalf and with good-will.

The Federal Council of Citizenship Training has no authority to impose anything on individuals or communities. It can only collect and disseminate information or make suggestions which may be of some use in promoting good citizenship. To make them useful such information and suggestions must be taken up voluntarily by citizens in the several communities and acted upon by voluntary organizations which now exist or may be formed for this special purpose. Such organizations may have the aid of federal, state, or local officials so far as the nature of their public service will permit. But, after all, the responsibility for action and the results therefrom will in the main depend on the citizens themselves.

To arouse interest in citizenship training, to aid in securing definite knowledge of existing conditions in the several communities, and to promote action in remedying such evils as are found to exist, this score card has been devised and may be used freely in whatever way may seem best to those to whom it may come.

THE NEW YORK STATE RURAL SCHOOL SURVEY

The committee which had charge of the New York State Rural School Survey has followed a conservative policy in seeking the enactment of the recommendations which were arrived at as the result of its investigations. The survey was completed before the last meeting of the legislature, but the bill growing out of its findings was not introduced until this year. The bill comes up now with a very general understanding of its provisions and with a widespread acceptance of the wisdom of these provisions.

In the meantime, the report of the survey has been used in other states besides New York as the basis of studies of rural-school administration. It contains the best discussion of the community district as the unit of school organization that is to be found in educational literature. It contains also a thorough discussion of the inequalities in school support in the state and a full treatment of the small high school.

The sale of the report has been managed entirely from the office of the chairman of the committee, Professor George A. Works, Cornell University, Ithaca, New York. The report is in eight volumes, each of which costs seventy-five cents, except the volume on administration and supervision, which costs one dollar.

COLLEGE INVESTIGATIONS OF HIGH-SCHOOL AND
COLLEGE SCHOLARSHIP

Two very notable investigations carried on by faculty committees of two universities on the Pacific Coast are of importance to those who are interested in high-school problems. One is published as the first of a series of bulletins in the social sciences issued by the University of Washington; the other is a special committee report published by Stanford University under the title, *Report of Subcommittee of Committee on Scholarship on Student Ability*.

These reports show that scientific studies of college problems are becoming necessary and increasingly common. They show also that the relation between the high schools and the colleges will very shortly be adjusted, not on arbitrary judgments on either side, nor on political compromises, but on the basis of facts established by careful inquiry.

The space which can properly be given to quotations from these reports is limited, but the following extracts are of prime importance.

Excerpts from the Washington report are as follows:

No one measure of student ability is adequate in prognosis of academic success at the University. The high school scholarship record is the best single measure, but studies by correlations (Table 37) and by percentages (Table 20) indicate that the high school record is far from accurate as a safe basis of prediction. When local conditions make it possible for a very large proportion of the graduates of any high school to enter the University, there is abundant opportunity for the less purposeful, the less able, and the less ambitious to find their way into the University.

Intelligence varies by schools. Where very large numbers of the graduates of large high schools enter the higher institutions, their intelligence ratings tend to approach a normal distribution curve with considerable numbers of poor and inferior students, but where small groups enter from distant high schools, they tend to be highly selected and superior groups.

Maturity, involving wider experience, stronger motives, and greater purpose, exerts a powerful influence upon scholarship records at the University. Where retardation in grades and high schools indicates great probability of failure, delayed registration, owing to necessity for work and earning money with which to go on to school, appears to have precisely the opposite effect in the University. Graduates of nearby high schools who have street car communication with the campus are much younger than those from distant high schools and appear to suffer a distinct disadvantage in scholarship comparisons for that reason.

Involved in the problem of lack of maturity appears the problem of lack of serious purpose on the part of many students. Of the students dropped for poor scholarship in June, 1922, 443 had intelligence scores on record at the University. Forty of these were E records or the lowest 5 per cent in intelligence. Therefore, 403 of the 443 had records of D and above, all of whom had intellectual ability sufficient for successful university work. Of these, moreover, seventeen were A in intelligence ratings, or among the highest 5 per cent. Scholastic disaster overtook all of them, and lack of serious purpose is probably the chief reason.

Progressive schemes of intelligence testing will soon find a recognized place in all admission systems. . . .

Any adequate system of admission must attempt to secure a real measure or a reliable estimation of character traits. This study presents plain inferences that highly desirable character traits carry many mediocre students to scholastic success, and undesirable character traits wreck the accomplishments of brilliant students. (See Sections D and E, Chapter II.) The absolute failure of the high school record or of the intelligence examinations, either or both, to deal adequately with the two boys whose records are shown in Table 24 indicates in part the necessity of other measures.

Broad curricula in high school and university afford abundant opportunity for the training of students of great brilliance and high skills but who have very narrow interests and talents. Much maladjustment may be avoided by proper reports upon special activities, interests, and talents as recognized or developed in the high school career.

The record of failures in high school is an accessible and predictive factor of great value. This study shows that a student who has not failed in any high school subject has a chance of two and one-half to one that he will not fail in any university subject than that he will fail in as much as three hours or more per quarter. The student who has only one or two semesters of high school failure has a chance of nearly two to one that he will not fail in any university subject than that he will fail in three hours or more per quarter. On the other hand, the student who comes to the University with a record of three or more semesters of high school failure has three times the probability of failing in three hours or more per quarter than he has of failing in no university subject.

Extracts from the Stanford report are as follows:

Students (men and women) entering in the winter, spring, and summer quarters have a much lower average score than students who enter in the autumn quarter.

Transfer students (men and women) make a somewhat higher average score than students entering from high schools, but not higher than students of the latter group who survive one year.

Students (men and women) entering from large high schools (attendance 1,000 or over) make a higher average score than those entering from smaller high schools.

There is a marked negative correlation between age of entrance and psychological score; that is, in general, the younger the student, the higher the score. A similar negative correlation was found between entering age and scholarship marks; in general, the younger the student, the higher the scholarship record.

Men initiated into fraternities have a somewhat lower average score than non-fraternity men. Women initiated into sororities have a slightly higher average score than non-sorority women.

Members of men's major-sports teams have an average score of 61; of the freshmen swimming, tennis, and soccer teams, 70; of the varsity swimming team, 78; of women's athletic teams, 72; of the dramatic group, 78; of the debating team, 82.

The average score of 24 students who had stood exceptionally high in a mental test given from two to ten years earlier is 91.

Of men scoring below 50, only about one in four remains six quarters; of men below 45, one in twelve; of men below 40, none.

In general, students having high psychological scores not only secure better scholarship marks but also carry a somewhat heavier program than students having low scores.

The psychological score tells what the student *might be expected to do* under reasonably favorable circumstances rather than what he actually will do. That the scores do not merely duplicate the information contained in the high school marks is shown by the fact that the correlation which various investigators have found between these two variables lies usually between .30 and .60. To a considerable extent the psychological examination gives a "new line" on the student.

However, the limitations of the psychological test should always be borne in mind. It is not a perfect measure of general intelligence; nor does it give an analytic picture of a subject's specialized abilities or disabilities. It does not tell us whether a given student will have the health or industry to succeed; nor does it measure social and moral qualities, although these are known to have more or less positive correlation with intelligence.

ENGLISH TEACHERS' JUDGMENTS CONCERNING NECESSARY IMPROVEMENTS

The National Council of Teachers of English has been conducting an extensive inquiry in order to determine what the English teachers themselves consider to be the improvements most urgently needed in the teaching of the mother tongue. The composite judgment of 8,799 teachers discloses their advocacy of the most pressing reforms in the following order: (1) specific working plans for the co-operative

teaching of English in all subjects (7,359 votes), (2) fixed requirements for teachers in each grade of work (7,027 votes), (3) minimum standards as to the number of students in each class, the number of periods a day, and the number of classes a day (6,693 votes), (4) simple refinements of practical tests and measurements for each grade (6,658 votes), (5) definite standards of English work for each grade or year (6,379), (6) a definite recognition of the curriculum on a use basis (5,883 votes).

This investigation has some merits in spite of the fact that it is open to the objections usually raised against the questionnaire method. Of 8,799 teachers of English, about 85 per cent want specific working plans for supervising English wherever it is written or spoken, while less than 10 per cent think that there would be any value in a "roster of English teachers showing the special work of each." This encouraging discrimination between essentials and nonessentials is manifested throughout the twenty-one options from among which the teachers were asked to choose a few of the most important. Moreover, the six reforms which received the highest number of votes might profitably be incorporated in a working program for any school system. They constitute a definite challenge for any school which wishes to evaluate its present practices and to consider possible improvements in the teaching of English.

REVIVAL OF THE CLASSICS

The London *Times Educational Supplement* offers comfort, in an editorial, to those who are devoted to the classics. The *School Review* is always glad to repeat anything of this type, especially if it promises to arouse teachers of Latin to a recognition of the fact that they ought to think of the necessity of fitting their work to modern conditions.

Members of the Classical Association who heard their president, the British Ambassador in Paris, address them, in the ancient hall of Westminster School, on the classics in France, must have come away with several pleasant impressions. Speaking from the "standpoint of a friendly observer," Lord Crewe had much to tell them of the history of classical studies in that most classical of countries which it would not be easy to find in similar compass elsewhere, and he was able at the end, after illustrating the vicissitudes of

several centuries, to bring them down to a time which, in spite of appearances, promises well for the future of the classical tradition. As is well known, under the régime of the present minister of public instruction, M. Léon Bérard, the curriculum in the lycées has just been revised; and the study of Latin and Greek, once practically the sole study in schools throughout Western Europe, is to have more time allotted to it than it has received in recent years. The change, one of many on which Lord Crewe touched in the course of his historical review, will not be regarded as reactionary by Englishmen who understand the French spirit or sympathize with the zealous pride with which Frenchmen of all ages have sought to conserve their linguistic and cultural inheritance. Nor, on other grounds, probably, is it likely to be criticized as a policy so sharply as it might have been a few years ago. Mr. Fisher, who also spoke at the meeting, declared that the advocates of the classics in England were rightly less nervous than they were in the face of modern studies; and he gave several reasons to account for their encouragement; and the Headmaster of Westminster supported him by quoting the numbers, an increasing proportion, of his boys who learn Greek and Latin. It seems, indeed, clear that after a period of unrest and searching trial, the claims of ancient humanism, both in England and France, have re-established themselves, not necessarily at the expense of alternatives, but on their own intrinsic merits.

The history of classical studies since the Renaissance, in England, in France, and in Germany, points to many fluctuations and changes of value, to periods of freshness and enthusiasm, and to others of convention and languor; but to anyone who takes a long view it is by no means a disheartening form of human effort that he has to contemplate. For four centuries Rome and Greece have been permeating, in varying degrees and through different channels, the civilization of their successors, and the debt of the modern world to them has never been better understood than it is now. It would be unreasonable, quite apart from the immensely extended purview of classical students today, to expect that each generation should look upon the classics exactly in the same light; and in classical study, as in other institutions, there has to be change, lest what is a good custom for one generation becomes a source of tedium to another. One of the surest tests of the vitality of the classics can be gathered from their position in history; one has only to read it to be convinced that they must be things, as it were, *divinitus aeterna donata salute* to have come so well out of the turmoil and revolution of so many years. In culture, as in philosophy and religion, though the phases of each may never be constant, man appears to be so constituted as to demand some measure of certitude; he is "hot" for "certainty," but he has found now by long experience that whatever other cultures give him, that of Rome and Greece has never returned "a dusty answer." Much will depend on schools and schoolmasters; much also on the sympathy and broadmindedness of those higher luminaries with whom, as the leaders of a progressive science, as well as men of culture, it rests to make their subject inspiring or the reverse; but still more, perhaps, on the attitude

of all those who in a busy and distracted age, whatever their work or profession, whether writing, speaking, making, or criticizing, have it in their power, as a duty and a privilege, to do their best to insure that nowhere shall the bad currency be allowed to drive out the good.

As a further encouragement to progressive classicism, we are glad to give publicity to the following announcement:

The American Classical League has established at Teachers College, Columbia University, New York City, a Service Bureau for Classical Teachers. This step has been made possible by a special fund granted to the league and by the financial assistance of Teachers College. Miss Frances Sabin, formerly assistant professor of Latin at the University of Wisconsin, is in charge of the work. She will be assisted by an informal committee of co-operating teachers and other persons throughout the country who are interested in the success of the undertaking.

The aim of such a professional center is to serve as a clearing-house for the exchange of ideas on the teaching of Latin and Greek in the secondary schools. The activities which will be associated with it may be roughly classified under the following headings: (1) collecting and arranging, in a form suitable for purposes of inspection and study, such material as may prove of value to classical teachers and other persons interested in the study of the classics in the secondary schools; (2) distributing certain parts of this material; (3) conducting a Correspondence Department for an exchange of ideas in general with teachers, principals, superintendents, and other persons who are interested in the work of the bureau.

It will be several months before the proper material can be collected and organized. Detailed announcements will be issued from time to time in the *Classical Journal* and in a four-page bulletin, entitled *Latin Notes*, issued by the Service Bureau (subscription price 50 cents).

LIMITING ADMISSION TO COLLEGE

The following summary of a report made by President A. L. Lowell to the Harvard Board of Overseers is quoted from the *New York Times*:

On the question of numbers and limitation, President Lowell said:

"A problem confronts many colleges from the large growth in the number of young men seeking higher education since the war. The reasons for the increase are not wholly clear. A part of it is easily explained on grounds that do not seem to account for the size of the movement or its persistence.

"Whether it will prove permanent or not, whether it will diminish or grow in strength with the lapse of time, is difficult to foresee; but at the moment it is embarrassing to not a few colleges, some of which have felt constrained to limit the number of their students.

"To us the question presented itself last autumn in an acute form. Under the provision permitting the admission without examination of boys who have graduated from schools with an approved curriculum in the first seven of their class, there have entered the college 212 Freshmen, and the total size of the class has increased by somewhat less than that number. . . . The new Freshmen last autumn number 851; the dropped Freshmen from last year's class, who pursue in the main the same courses, are 89; and those entering the Engineering School, who are college Freshmen for both instruction and residence, are 83. The whole number of Freshmen is thus 1,023, as compared with 895 last year.

"The idea of limiting the number of students in the college is not agreeable, and no one would propose it as a finality or suggest that there is here some permanent size of maximum usefulness; but for a time the conditions of the teaching staff and equipment may render it impossible to do full justice to more than a definite number of students. That is, in fact, our situation today. . . . The necessity arises from several causes. One of them is the lack of material equipment. The freshman halls were built to house about 500 men.

"An excellent course in general biology, entitled, 'Life and Its Environment' has been opened, and the applications for it were about 450; but, owing to the limited size of the laboratories, only 300 could be admitted. . . . The introductory course in history has 767 members—more than it is wise to have in a single course—while other courses have been limited in numbers to the disadvantage of those refused admittance.

"Clearly, it is not fair to announce that students coming here will be housed in the freshman halls and given the benefit of certain courses, and then, when they come, inform them that these halls and some of the most attractive courses are already filled to overflowing.

"The same thing may be said of the teaching staff. The endowment given by the alumni, magnificent as it was, barely sufficed to cover the necessary increase in salaries of professors and instructors, without enlarging their number; and, in fact, if the faculty is to be kept at its present level in quality, any enlargement could only be made slowly, even were the university to possess the funds required. Such an extension requires time."

President Lowell recited objections to limitation by competitive examinations on the ground that the preparing schools are of such unequal standards and in the course of his remarks said:

"Admission by competitive entrance examinations would also exclude not a few boys of sterling qualities in favor of others who are more acquisitive and have more capacity for displaying their knowledge but have less permanent solidity. . . .

"With any plan for limitation, every appropriate means of ascertaining the qualities of an applicant ought to be employed, such as his school record, the advantages or difficulties under which his education has been acquired, his

character so far as it can be ascertained, and, not least in importance, what can be learned by a personal talk with the boy whenever possible."

THE EXPANSION OF THE HIGH SCHOOL

At the invitation of the city of Atchison, Kansas, the Bureau of School Service of the University of Kansas conducted a survey to determine whether or not the Atchison school system should be expanded to include a junior college. After studying the population and resources of the city, the bureau outlined two plans which the city might follow. The issues presented in these two plans are of such general applicability that the final pages of the report are here quoted in full.

In view of the fact that Atchison now sends many students to attend colleges and universities elsewhere, that the city is financially better able to support a junior college than are most of the cities of Kansas, but that other high schools in the region must furnish a portion of the students to make the enrolment in such a junior college reach an acceptable minimum, and in view of the further fact that a new building will probably be needed because of the inadequacy of the present high-school building for housing a junior college with the high-school classes, *therefore it is recommended that the Atchison Board of Education seriously undertake the task of establishing a regional type of junior college.*

In undertaking this task the immediate problem of the board should be to take these steps to insure a superior organization:

1. Canvass the city of Atchison to determine the number of students likely to attend such a junior college.
2. Enlist the actual co-operation of all high schools within a twenty-five-mile radius in a definite working agreement.
3. Take careful canvass of these neighboring high schools for prospective students.
4. If successful to this point, submit the question to voters for authority to organize. Funds for operation and construction of building must later be provided.
5. Elect to the junior-college faculty only teachers of superior training and ability. Make superior merit its chief feature.

Atchison cannot hope to justify the establishment of a junior college which will lack the minimum number of students or the essential features of organization that are necessary to make it effective for its purpose. In the developing of such a project the city cannot escape the need and the obligation of rendering service to, and commanding the support of, that larger community which it normally claims as its trade territory. Atchison can much better

afford to do without a junior college than it can to support one that is seriously deficient or inferior; and, while the possibilities of success in this respect are limited, the possibilities of mistakes are much more unlimited.

A second course of action may merit careful consideration by the board of education and the city of Atchison in the event that the establishment of a regional junior college as recommended does not prove feasible. This proposal concerns the advisability of adapting the 4-4 plan of organization to provide by a new adjustment for the junior-college and high-school needs in Atchison. While this plan would mark a definite departure in organization from the prevailing 3-3-2 plan, in actual practice it would not be dissimilar to what is now happening in many cities which maintain a small junior college in close connection with the high school, employing a common staff and common equipment for both. However, a difference is implied with reference to policy and standards.

From the standpoint of internal organization, the junior high school would then comprise approximately 700 pupils, in Grades VII to X inclusive; and the two upper years of the present high school, with the two years of junior college added, would comprise the senior division, with approximately 250 students enrolled. The latter division would doubtless require a new and separate building.

The general or external features of this plan would present several initial difficulties to any city undertaking to put it into operation in this state:

1. Legislative authorization would have to be secured for such a reorganization of its school system.
2. Approval of this procedure would have to be obtained from the accrediting agencies, at least in so far as college standards of work are involved.
3. The teaching staff, equipment, and standards employed in the senior division would have to comply with the requirements prescribed for junior-college work.

Doubtless these conditions could be met by Atchison, if the advantages of the plan seemed to recommend it strongly as the one best suited to accomplish the educational objectives sought. One definite feature of this plan is that it would make possible the organization of the advanced students into instruction groups of economical size and likewise the provision of a high grade of instruction for them, without being dependent upon additional students from other high schools. It would, of course, be quite unwise to undertake a reorganization of this sort without carefully considering the problems and difficulties to be met in its accomplishment.

SUPERVISED STUDY IN ELEMENTARY PHYSICAL SCIENCE

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The purpose of supervised study in science in the University High School of the University of Chicago, the plan of organization, and the scheme of instructional technique used in the science courses have already been outlined.¹ It is the purpose of this article to present the procedure during the assimilation period in a class of beginning pupils.

Since the scheme of instruction is radically different from that ordinarily employed in the lower school from which the pupils enter the high school—namely, the daily recitation plan—the work of the beginning pupils must be very carefully supervised. During the assimilation phase of instruction, the pupil is left to his own resources for a period of several weeks. Unless the work is carefully planned, the pupil becomes a collector of facts at large, and the true significance of his study is lost.

For this reason, the units in Science I have been broken up into a series of problems. For example, the unit entitled "How Our Water Supply Is Obtained and Distributed," is divided into the following problems:

1. What are the important sources of water?
2. How does a lift pump work?
3. How do cities use pumps to distribute their water?
4. Why do cities construct reservoirs and stand-pipes?
5. How do we control the flow of water in our buildings?
6. How is hot water supplied in the home?
7. How is pollution of the water supply prevented?
8. How is water purified?

These problems, together with the preview, serve as a guide for the pupil during the period of assimilation.

¹ Charles J. Pieper, "Supervised Study in Natural Science," *School Review*, XXXII (February, 1924), 122-33.

It was soon found, however, that something more than the problem was needed to secure understanding. At the beginning of the assimilation period, the pupils were cautioned to be sure that they understood each problem before they commenced another. This is what happened: Pupil A read the problem once, thought that he understood it perfectly, and went on. Pupil B read the problem over and over and was unable to tell when he had mastered it and consequently stayed on the same problem. Pupil C memorized all that he could of each problem and went on to the next. Pupil D took very careful and accurate notes by the simple method of copying the sentences that he thought important. Pupil E read the problem several times and then made a mental or written summary. Each pupil thus adopted the method which he thought would achieve the desired end. The result was that each pupil accumulated a series of facts by the sheer force of memory.

This accumulation of facts without thorough assimilation did not result in understanding. It became the task of the instructor, therefore, to devise some method which would furnish a means whereby the pupil could test himself on each problem and at the same time furnish concrete evidence to the teacher that the pupil had accomplished the desired result.

This situation was met by the construction of a performance test for each of the problems of the unit. These tests were constructed in such a way that they involved some reorganization of the subject-matter in response to a new situation or insured that the pupil had followed the line of reasoning presented. The type of test naturally varied with the subject-matter of the problem. In general, the tests included the following: (1) answering thought questions involving selective recall, evaluating recall, comparison, application of principles, generalizations, cause and effect, analysis, synthesis, and classification; (2) making outlines and summaries; (3) stating contribution of each paragraph to the whole; (4) framing questions, the answers to which would summarize the problem; (5) making graphs from tables; (6) making drawings of devices during different periods of operation; and (7) making cross-section drawings from illustrations or laboratory apparatus.

Before attempting these tests, the pupils were instructed to read each problem twice, the first time for a general view of it and the second time, more slowly, for the purpose of assimilating the details. The pupils then closed their books, did the tests in the classroom, and handed them to the teacher. These tests were marked in class. If they were not satisfactory, they were immediately returned to the pupils for correction. The following marks were used: "I" for incorrect, "Inc" for incomplete, "OQ" for "off the question," and "TB" for too broad. The tests have a threefold value: (1) they enable the pupil to test his own understanding; (2) they give the pupil practice in different study-skills; and (3) they furnish the teacher with valuable information concerning the pupil's attitude toward study and his method of procedure and provide a basis for individual remedial work.

A record was kept for each pupil, showing the number of attempts necessary to complete each test satisfactorily as well as the number and the types of errors. This record and the test papers were then used as a basis for a conference between the teacher and the pupil. Every teacher knows that exhortations on methods of study and general directions on how to study are of little value. Pupils will change their methods of study only when they have concrete evidence that their own methods will not produce results and when the teacher can demonstrate to them that another method is better. The records furnish this concrete evidence and thus lay the foundation for "selling" a better method to the pupil. For this reason the plan has been, first, to give the pupil something to do; second, to show him his error and try to indicate the fault in procedure which caused the error; and third, to have him repeat the test and give him other tests involving the same type of procedure.

By means of the tests and observation, it is possible to distinguish the methods of procedure used by the pupils in arriving at their conclusions. In general, the principal errors in methods of procedure and their diagnosis and correction are the following:

1. *Failure to understand the test or exercise.*—There is often misunderstanding on the part of pupils because they are careless in reading the test or exercise or because they attempt the test

before they have a complete understanding of the problem. The most frequent types of error are incorrect answers and "off-the-question" answers. These can frequently be corrected by having the pupil write the test or exercise in his own words and show it to the instructor before he begins. Pupils who habitually misunderstand questions or tasks should be shown the value of the habit of stating the questions in their own words.

2. Failure to identify the type of work needed to secure the answer.

—When confronted with a thought question, many pupils simply read the question and then look through the text to find the answer. If they cannot find some direct connection between the thought of the question and some passage in the text, they give up and inform the teacher that the answer is not there; others find a few phrases in the text which are similar to those used in the test and write them down as an answer; others write down everything that they can find which has any bearing on the test. This results mainly in answers which are "off the question" or too broad. Here, again, the pupils must be shown that their faulty answers are due to incorrect methods of procedure. Corrective work varies, of course, with the type of test. In some cases the pupil has failed to strip the question of its "setting" and thus cannot identify it with the correct principle or application. Corrective work consists in having the pupil state the question in his own words and then ask himself, "What do I have to know in order to answer this question?" and "How shall I go about getting the answer?" When a pupil has difficulty in determining the method of procedure, the teacher should show him the method used in that particular case and then give him practice in problems of a similar nature.

3. Failure to see the relation between experiments and subject-matter.—The text is inductive in character and proceeds from applications to principles; that is, the pump is first studied as a working device, and then experiments follow which present the principle of science involved in its operation. The experiments are performed individually, each pupil proceeding at his own rate of speed. Many pupils become so interested in the manipulation of the apparatus that they lose sight of the purpose of the experiment. The experiment thus tends to become something apart from the subject-

matter. Since the text is inductive, each experiment contributes some one fact or principle necessary for complete understanding. Consequently, the pupil who has not grasped the relation between the experiment and the subject-matter is bewildered when he comes to the test. He either gives up or frames some totally inadequate answer. Since all of the problems are not experimental, it is very easy to identify such a pupil. In correcting this error, the teacher must prove to the pupil that his faulty answer was due to a failure to see the contribution of the experiment. If, on the next problem which includes experiments, the pupil is required to write out, before doing the test, the principles or facts presented by the experiments and then to do the test, the ease with which he can do the test will give him concrete evidence of the value of the experiments.

4. *Tendency to memorize the text rather than to rationalize it.*—Pupils who memorize the text can be identified by observation. They read the text over and over, frequently turning their eyes away from the book and gazing into space. Many of them move their lips as they repeat the words of the text. The results of memorizing are also apparent in the test results which frequently contain word-for-word reproductions. This practice is soon broken if the tests are so constructed that they call for reflective thinking with the memory element as a minimum.

5. *Tendency to form conclusions without weighing the evidence.*—Many pupils reach conclusions without due consideration of the facts. This results in incorrect answers. Such pupils generally make a large number of attempts on the tests. If a daily record of attempts is kept, these pupils can be readily identified by the large number of attempts made on any given day. This type of pupil usually makes many suggestions but does not evaluate these suggestions before formulating his response. The habit which must be broken is that of taking the first suggestion which comes to mind. The habit to be inculcated is that of recalling or formulating as many solutions as possible and then testing each solution in the light of its applicability to the problem at hand. This tendency also results in incomplete answers. In answering a question which involves putting together several ideas contained in different paragraphs, some pupils obtain a partial answer from

one paragraph and then fail to combine with it equally important ideas from other paragraphs. This is frequently due to the fact that the pupil has not studied the problem as a whole and has failed to grasp the author's organization.

6. *Inability to distinguish between main and minor points.*—The inability to distinguish between main and minor points shows up, of course, most frequently in the making of outlines and summaries. In many cases it is due to a lack of knowledge concerning chapter and paragraph structure; in other cases it is due to a lack of definite purpose on the part of the pupil in selecting facts. Here the pupil should be taught the significance of the problem or chapter title in guiding him in the selection of facts and the use of "sign-post" and summary paragraphs and topic sentences. Practice, with constant supervision on the part of the teacher, is necessary.

7. *Failure to use or interpret diagrams, tables, illustrations, and cross-section drawings.*—Many pupils regard illustrations as something to be looked at and then passed by. As a result, many pupils do not know how to study illustrations or read diagrams, tables, graphs, and especially section-drawings. In order to assist pupils in the interpretation of section-drawings it is sometimes necessary to have both illustrations and section-drawings of the same device. Practice can also be given in making section-drawings from the actual apparatus. Tests which involve interpretation of illustrations and diagrams should be frequently introduced to stress their value.

8. *Inability to translate the printed word into a thought picture.*—Many pupils memorize the steps in an operation without actually seeing the significance of each step. One way to identify such pupils is to have them draw a pump in different stages of its operation. For example, suppose that the section-drawing in the text shows the piston and the position of the valves at the beginning of the first up stroke and that the rest of the operation is explained in the text. If the pupil is asked to show the positions of the valves and the piston on the first down stroke and the second up stroke, giving reasons for the different positions of the valves and the rise of the water through the cylinder, he will be forced to rationalize

the process. Many pupils can glibly tell how the pump operates without having the slightest understanding of its operation.

The results obtained in following the procedure outlined are evidenced in the reduction of the number of attempts required to do the tests, in the reduction of the number of errors, and in the reduction of the length of time required to complete the units. In Unit I the average number of attempts required for each test was 1.86; in Unit II the average number of attempts was 1.56. The average number of errors per test in Unit I was 2.1; and in Unit II, 1.6. To be sure, it is impossible to say that there is an absolute gain of a certain amount, because the difficulty of the two units may not be the same. In the judgment of the writer, however, the tests in Unit II were more difficult than the tests in Unit I. Data on all of the units covered will be available at the end of the year, and a more exact comparison can be made.

Indirect results obtained from supervised study of this sort are shown by standardized reading tests. Last year the Thorndike-McCall Reading Scale, Form 1, was given at the beginning of the year, and Form 9 was given at the end of the year. The median score in reading age in October was 161 months; in June, 215 months—a gain of 54 months. This gain, of course, was not due entirely to the training given in Science 1, since work of this same character is carried on in other departments of the school.

Supervising study in beginning courses in science thus consists of setting up definite tests, the results of which are used not only to determine the extent of the pupil's understanding but also to find out the incorrect methods of procedure which are responsible for faulty answers. These results also furnish the basis for teaching children how to study, the method of study itself being the end in view.

A STUDY OF HIGH-SCHOOL AND FIRST-YEAR UNIVERSITY GRADES

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This study of the grades of first-year students in the University of Chicago and of the relation of these grades to the high-school grades of the same students was undertaken with a view to answering the following questions: (1) To what extent does good work in the high school predict good work in the first year of college? (2) What would be the effect of raising the high-school scholarship average required for admission by the University of Chicago? (3) How can first-year college grades be made of particular interest and value to the high-school principal? (4) Which first-year students should be given special study by the University?

The students selected for this study were those who entered the University of Chicago directly from the Chicago high schools for the five years 1916-17, 1917-18, 1919-20, 1920-21, and 1921-22. They comprise 49 per cent of all of the first-year admissions during the period. A table was prepared for each school represented, in which was shown the average of each student's high-school grades together with the average of his first-year university grades. To make the comparisons more accurate, only the grades made in non-vocational high-school subjects were included. The combined results of all of these tables are shown in Table I.

The scale at the left of Table I is expressed in letters and in numbers since each grade given by the University of Chicago has a numerical equivalent in "grade points." The system of grade points affords a means of arithmetical averaging of grades and provides a basis for imposing penalties since each student is required to maintain a certain average number of grade points. The high-school grades at the top of the table are expressed in percentages on the basis of a passing grade of 75. Students from high schools having other passing marks were placed in their proper relative

positions. The figures in the table show the number of students who had the four-year high-school average and the first-year university average indicated.

The first general conclusion is that a high quality of work in high school is normally followed by a high quality of work in the first year at the University of Chicago, as represented by teachers' grades, and vice versa. The correlation between the high-school

TABLE I

	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	Total
A-6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2
A-5	1	1	1	1	2	4	5	5	7	2	3	1	2	2	2	2	2	24	
A-4	1	1	2	2	5	2	4	3	5	9	4	7	4	8	6	6	1	50	
B-4	1	1	2	2	5	2	4	3	5	9	4	7	4	8	6	1	1	49	
B-3	2	5	5	3	6	10	5	11	8	12	9	11	7	4	3	1	1	63	
B-2	3	3	5	9	7	12	13	8	9	16	10	10	9	2	2	2	1	89	
B-1	3	7	11	10	14	11	13	14	10	11	18	9	15	6	2	2	1	117	
C-3	1	12	7	4	11	8	24	13	12	10	9	5	6	2	1	1	1	156	
C-2	4	20	17	25	21	18	14	14	4	10	8	4	1	1	1	1	1	179	
C-1	5	24	17	20	29	29	23	12	11	14	3	7	4	1	2	1	1	201	
D-0	1	126	28	28	17	20	12	7	6	3	3	1	1	1	1	1	1	152	
D-1	3	23	19	15	16	11	3	8	2	6	1	2	1	1	1	1	1	110	
E-1	6	12	11	16	10	8	7	1	1	1	1	1	1	1	1	1	1	82	
E-2	4	11	11	9	8	7	9	1	3	1	1	1	1	1	1	1	1	63	
E-3	1	7	24	7	3	102	7	1	3	1	1	1	1	1	1	1	1	31	
E-4	13	5	10	4	3	3	1	1	1	1	1	1	1	1	1	1	1	38	
E-5	1	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	11	
E-6	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	
E-7	2	7	5	3	2	4	1	1	1	1	1	1	1	1	1	1	1	24	
Total	37	176	154	176	160	157	142	113	92	101	90	81	77	46	45	30	23	7	787

grades and the first-year college grades in Table I is .61, with a probable error of .01, as expressed by the correlation coefficient. The correlation ratios of $.64 \pm .01$ and $.61 \pm .01$ confirm this relationship and give mathematical indication that there is approximately a straight-line relationship between the grades obtained in high school and those obtained in college.

It might be expected that a degree of correlation higher than .61 would exist between the high-school marks and the first-year college marks. This is not, however, a fair test of the similarity of the grades obtained in high school and college, for the comparison lies between the marks of four years in high school and the marks of only one year in college. In the first year of college the effects of the operation of several kinds of selective agencies must be con-

sidered. For instance, the first course in college English is a selective agency widely known for its low grades; it contributes one-ninth of the first-year average, or more in some cases. Moreover, we are pitting the combined judgment of some nine first-year college instructors, some of them immature, against the combined judgment of approximately twice that number of high-school teachers. To make the correlation statistically fair, we should include all of the students who entered high school but dropped out on account of poor work. When these limitations of the comparison are taken into consideration, it should be clear that a correlation of .61 between high-school grades and first-year college grades is a substantial relationship.

The data in Table I may be used in studying the effects of raising the high-school average required for admission to the University of Chicago. The requirement at present is that the applicant for admission from high school must have "an average grade in academic subjects above the passing mark of the school by 25 per cent of the difference between the passing mark and 100." For a student from a high school in which the passing mark is 75, the average required for entrance to the University is 81.25. This is shown in Table I by the vertical heavy broken line under 81 on the high-school scale, called hereafter Admission Point 1. Thirty-seven students during the five years who had high-school averages slightly below 81 were admitted after passing entrance examinations with grades sufficiently high to bring their averages up to 81.25. These students were plotted, however, on the basis of their actual high-school averages and in Table I are shown between 80 and 81, just to the left of Admission Point 1.

It has been suggested that raising the high-school average required for admission would result in securing first-year students who would do better work with fewer failures at the end of the year. In the light of the substantial correlation existing between the two sets of grades, this would seem the logical course to pursue to lessen the present heavy adjustment toll of the first college year. In order to see which students would have been excluded by higher scholastic entrance requirements, use may be made of two additional heavy broken vertical lines in Table I which will be referred to as

Admission Point 2 and Admission Point 3. The two lines at 83.33 and 85 on the high-school scale represent respectively high-school averages higher than the passing mark by 33.33 per cent and 40 per cent of the difference between the passing mark and 100. If the admission point were raised to either No. 2 or No. 3, all of the students to the left of the vertical line would be excluded. By studying the first-year college records made by these students, we can ascertain the scholastic standing of the group which would be excluded by the higher entrance requirement and decide whether or not it would be desirable to exclude that group.

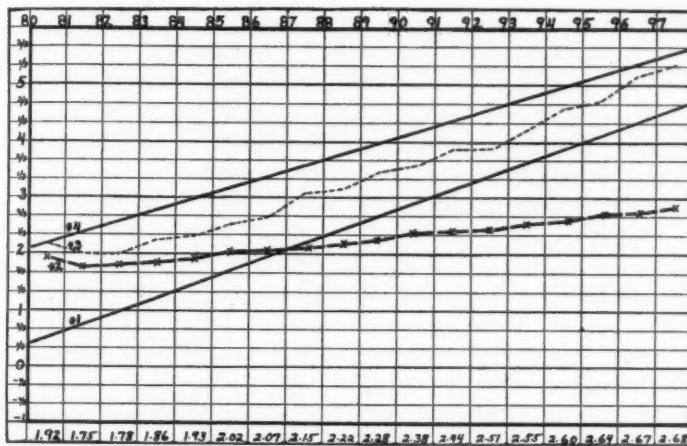
The dividing line between satisfactory and unsatisfactory work is set clearly by the University of Chicago at C, or two grade points per college course taken. This average is required for graduation, and any student falling below this average at any time in his college course is placed on probation. All of the students, then, in Table I above the heavy broken horizontal line at two grade points (C) may be considered as having done satisfactory work the first year in college, and all of those below this line may be considered as having done unsatisfactory work and as subject to dismissal. Of the whole group studied for the five-year period, 516, or 30.2 per cent, fall below this line. As to excluding this group with a view to eliminating the waste of nearly a year of their time as well as some of the University's time, it will be seen that 260, or 50.4 per cent, of such unsatisfactory workers fall to the left of Admission Point 2. In other words, if the admission point were raised from 1 to 2, all of the students to the left of Admission Point 2 would be excluded, and among these would be 50.4 per cent of the number who made unsatisfactory records the first year.

From this standpoint, it would seem desirable to raise the admission requirement. Further considerations, however, indicate that such a change would be quite undesirable. In the first place, the group above the satisfactory line and to the left of Admission Point 2 would automatically be excluded at the same time. This group numbers 202 students, and the raising of the required high-school average to 83.3 would exclude for every four students doing unsatisfactory work approximately three students doing satisfactory work. This is a toll far too heavy to be exacted under present

conditions. In the second place, not all of the students doing unsatisfactory work the first year are dismissed. A study of the graduates of the University of Chicago for the last five years shows that approximately 10 per cent of the graduates were members of this unsatisfactory group the first year. Studies are now being made, of which the present study is one, to determine the prediction value of the first year's work at the University. In the third place, it is always an even chance that the cause of failure may be the fault of the institution itself. No conclusions could be called valid which assumed, in the face of such well-defined limitations, that the instruction in the University is faultless. It may be that the University could find in its own practices a source of failure as fruitful as a low high-school average requirement. At the present time all that can be said is that to raise the high-school average required by the University of Chicago for admission from the present typical average of 81.25 to the suggested average of 83.3 would probably exclude 27.1 per cent of the normal admissions, of which nearly one-half are satisfactory workers the first year, and a very considerable percentage of the other half may do satisfactory work after the first year.

This point is somewhat strengthened by the fact that if the required average were raised to 85, Admission Point 3, it would exclude 41.2 per cent of the normal admissions but would still allow 154 students to enter who do unsatisfactory work the first year, 29.8 per cent of the total number of students doing unsatisfactory first-year work. This general fact is illustrated by Curve 3 of Figure 1. This curve is based on the ratio of the number of students above the two-grade-point line to the number below who were admitted at the present entrance requirement, 81.25. This ratio is 41.5 per cent above to 58.5 per cent below. The curve is so drawn that it divides the number of students above it and below it at all high-school averages according to this ratio; that is, it passes through the 58.5 percentile of each column. At all points to the right of the column representing a high-school average of 82 the curve is above the two-grade-point line. If the admission requirement were raised to any higher high-school average, all those students in Table I to the left of this point would be excluded, and

the division between the satisfactory and unsatisfactory grades would, of course, be the two-grade-point line. All of the students, then, whose records fall between the two-grade-point line and Curve 3 represent satisfactory students who would be excluded in excess



1.— Q_1 , below which there are 25 per cent of the students.
2.—The mean first-year grade of all students up to any given high-school average.
3.—The 85.5 percentile, indicating for any given high-school grade the point at which the ratio between the students above and the students below is the same as the ratio of the students who do satisfactory work to the students who do unsatisfactory work the first year at the required entering mark.
4.— Q_3 , above which there are 25 per cent of the students.

Fig. 1.—Mean and percentile curves for Table I

of the present ratio of satisfactory to unsatisfactory records. This shows that the admission requirement cannot be raised to any higher point and exclude as large a proportion of unsatisfactory to satisfactory students as does the present requirement.

Curve 2 of Figure 1 is the cumulative mean of the first-year University grades; that is, it is the arithmetic average of the combined first-year college grades of all students who entered with high-school averages up to and including any given average. Thus the value indicated for the 97 column is 2.68 grade points, the average of all of the students with high-school averages up to and including 97, or in other words, the average of all of the students in the present study. Its trend, much the same as that of Curve 3,

indicates practically the same fact, but as it is based on cumulative data instead of on each column independently, it does not rise so rapidly. Curves 1 and 4 in Figure 1 represent respectively the first and third quartiles; that is, 25 per cent of the students' grades lie above the third quartile and 25 per cent lie below the first quartile.

The high-school principal can secure from studies of this type much information of value to him. To be sure, the work of a few students in a second institution cannot be taken as a reliable measure of the efficiency or value of the work of the first school. However, if the necessary information could be sent from all of the colleges and universities to which the graduates of a high school go, it would be reasonably clear whether or not that high school was giving grades too high or too low as compared with other schools for the quality of preparation given. If such returns are received for only a very limited number of the graduates of a high school, there is a chance that unusual or abnormal factors may have influenced the work of the students and that they may not be typical of all of the students from that school. There is less probability of these chance factors when the results for a number of years are averaged together, as is done in the present case.

In this connection Table II may be looked upon as a report which a higher institution might return to a high-school principal. In the third column is given the average of the work done in the first year by the students from each of the twenty-two high schools listed. In the case of School 1 this is 3.48. In the fourth column is given the average high-school grade of all of the students from the twenty-two schools who made the first-year college average recorded in the third column. For instance, the high-school grades of all students who made an average in their first college year of 3.48 grade points average 88.19. This we may call the average high-school mark made by students who made an average of 3.48 grade points in their first year at the University of Chicago. In the fifth column is recorded the actual average of the grades given by each high school to the students who entered the University from that high school. The difference, then, between the average grade given by any high school to its students who entered the University

and the average high-school grade made by all of the students whose first-year college average was the same as the first-year college average of the students of the one high school, indicates the extent to which that school is marking higher or lower than the average of all of the schools for the quality of high-school preparation which leads,

TABLE II

High School	Index Number of First-Year University Work	Mean of First-Year University Work in Grade Points	Mean of High-School Marks Given by 22 High Schools for This Grade of University Work	Mean of High-School Marks Given at Each School	Extent to Which the High School Is Marking Lower than the Average	Extent to Which the High School Is Marking Higher than the Average
1.....	443	3.48	88.19	85.84	2.35	.....
2.....	390	3.30	87.86	86.86	1.00	.....
3.....	334	3.11	87.51	87.52	.....	.01
4.....	332	3.11	87.51	87.94	.....	.43
5.....	308	3.03	87.36	85.91	1.45	.....
6.....	271	2.90	87.12	87.59	.....	.47
7.....	267	2.89	87.10	88.38	.....	1.28
8.....	257	2.86	87.04	86.72	.32	.....
9.....	249	2.83	86.99	87.60	.....	.61
10.....	232	2.77	86.88	86.11	.77	.....
11.....	228	2.76	86.86	85.29	.57	.....
12.....	220	2.73	86.80	87.53	.....	.73
13.....	193	2.64	86.64	86.58	.06	.....
14.....	190	2.63	86.62	84.94	1.68	.....
15.....	174	2.58	86.52	87.64	.....	1.12
16.....	171	2.57	86.50	86.70	.....	.26
17.....	164	2.55	86.47	86.64	.....	.17
18.....	163	2.54	86.45	86.60	.....	.15
19.....	130	2.43	86.25	86.00	.25	.....
20.....	125	2.42	86.23	86.25	.....	.02
21.....	92	2.31	86.02	86.98	.....	.96
22.....	39	2.13	85.69	89.50	.....	3.81
All schools.....	204	2.68	86.71	86.71	.....	.....

on the average, to a certain grade of first-year college work; that is, subtracting the value in Column 5 from the value in Column 4 gives the difference sought. In the case of the first school, subtracting 85.84, the average grade given by that school to the students who came to the University and made an average of 3.48 grade points, from 88.19, the average grade given by all of the high schools to the students who made a first-year college average of 3.48 grade points, we find that the school is marking 2.35 lower than the average school for the same quality of preparation as measured by

comparison with the average subsequent record of such students. Similarly, we find that the last high school is marking .381 higher than the average of these twenty-two schools.

Such statements must, of course, be interpreted with a certain caution. As noted, the grades are from only a few of the graduates of each school, and it is not safe to say that these results are typical of all of the graduates of these schools without allowing some latitude for the error in the assumption that this group is typical of the total number. In interpreting the results of Table II, therefore, it must be borne in mind that these results are strictly applicable only to the particular group of students who attended the University of Chicago. Before School 1 could be definitely assured that it was marking lower than the average for a given grade of preparation it would have to receive similar reports from the colleges to which a majority of its graduates had gone.

A second point to be made is that a given high-school grade will not be followed in every case by a certain first-year college grade; we can only determine the average of all such cases and use it with the understanding that it is an average and not an absolute value. This average, furthermore, will be contributed to unequally by the different schools according to the number of students sent, unless these contributions are made of equal weight for the purpose of establishing an average. It would be better also to include all of the contributing high schools in the average instead of only twenty-two.

Any material of special interest to the high-school principal is also of primary interest to the university examiner and to the university board of admissions. Table II, which may be of interest to high-school administrators, may become of large concern to those who have charge of admissions to higher institutions. This table shows that School 22, for example, is sending to the University of Chicago students who are being admitted with a high-school average .381 lower than the requirement, or with an average slightly over 77.44. In the case of students from School 1, a number of those students who would ordinarily be eligible to enter the University of Chicago are not now eligible because that school is giving them grades .235 lower than the average school. If such differ-

ences persist after allowance has been made (mathematically, by certain formulas) for the points mentioned, these cases are deserving of special attention.

The index numbers in Column 2 of Table II are designed to show proportional distances above the two-grade-point line of the average of the work done the first year by the students of the various schools. The first year's work at the University of Chicago by the students of the first school is more than ten times higher above the required average than the work of the students of the twenty-second school. This supports the finding that one school is marking lower than the average, thereby permitting only a more selected group to meet the admission requirements of the University of Chicago, while the other school is permitting students of less ability to enter.

Tables made up for each school similar to Table I would prove of great value for a study of individual cases. A method of presenting these results graphically is shown in Figure 2 which could

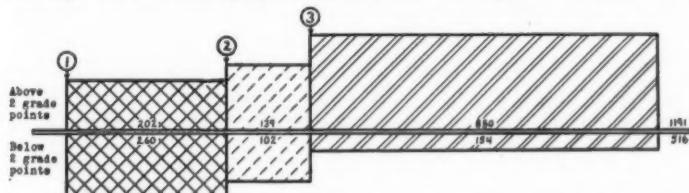


FIG. 2.—Satisfactory and unsatisfactory first-year college grades with reference to admission points.

be followed for each individual school for purposes of comparison. The sections as presented are divided to show the effect of the different admission points, but they can be divided at any desired high-school average. The length of each section represents the total number of students in that section. If it is desired to show the number of students who made certain first-year college grades without regard to high-school averages, graphs can be made similar to Figure 3, which shows the distribution of the grades made in the first year at the University of Chicago by the 1,707 students. A sectioned bar made for each school would afford a ready means of visual comparison, and the index number attached would provide

a means of more exact mathematical comparison. Thus both the high-school principal and the university board of admissions can be supplied with information both for the analysis of the work of students from any school and for the comparison of that work with the work of students from other schools.



FIG. 3.—Distribution of first-year college grades of 1,707 students

One object of this study was to obtain information concerning the students who need special attention and investigation. Such cases can readily be determined from Table I. With the central group of students showing a substantial correlation between the two sets of grades, those who are near the edge of the table are manifestly influenced by unusual or abnormal conditions. The student whose work shows a revolutionary change when he passes from one institution to the other may well be made the subject of special attention if the higher institution has a real desire to help him. A statistical study gives us no idea as to the cause of such exceptional records; it merely indicates a more or less pressing need for the more extended and more personal study of the special cases, primarily the prerogative of the offices of the deans in the several colleges of a university.

In conclusion, then, there seems to be a substantial correlation between grades in high school and grades in the first year in college. For the University of Chicago, it would seem undesirable to raise the present qualitative admission requirement, for at no higher admission point could so many students doing unsatisfactory work be excluded as compared with the number of students doing satisfactory work the first year at the University. The data presented in Table I, if plotted for individual schools, make it possible to supply information of more or less value to the high-school principal and to the university board of admissions. The same data also point out the need for the more careful study of the factors, other than the record in the secondary school, contributing to failure or success in the higher institution. Doubtless large possibilities lie in this field for the more extended study of the grades of high-school and first- or second-year university students.

IS THE PEDAGOGICALLY ACCELERATED STUDENT A MISFIT IN THE SENIOR HIGH SCHOOL?

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The following questions are here raised and discussed: (1) How does the pedagogically accelerated student compare with his fellow students in mental ability? In scholarship? (2) How does the physical development of the pedagogically accelerated student compare with the norms for children of the same age? (3) Is the pedagogically accelerated student a student-body leader? What is the attitude of the other students toward him? (4) Is the pedagogically accelerated student a social misfit in the secondary school? (5) Is pedagogical acceleration one of the school's best methods of meeting the needs of the superior child?

The two devices most commonly used in the elementary school today to meet the needs of the superior child are (1) an enriched course of study and (2) special promotion to the next higher grade as soon as the pupil shows that he has mastered the work of the present grade. The result of the latter procedure is that some children enter the tenth grade of the senior high school at the age of twelve or thirteen and are ready for university matriculation at the age of fifteen or sixteen.

This raises the question whether the pedagogically accelerated student receives an all-round development, or is one-sided—merely a bookworm—underdeveloped physically, and a social misfit. Too often the answers to these questions have been mere opinions unsupported by facts.

A study of the age-grade distribution tables of the Berkeley High School showed that for the spring term of 1923, out of an enrolment of 1,800 students, 135 were pedagogically accelerated¹

¹ The normal age for a child entering the first grade is from five years and nine months to six years and nine months. If a pupil completes a school grade each year, he should be from fourteen years and nine months to fifteen years and nine months old.

from nine months (approximately two school terms) to two years and nine months (approximately six school terms). Table I shows the range of acceleration of this group of students.

TABLE I

AMOUNT OF ACCELERATION	BOYS		GIRLS		TOTAL	
	Number	Percent-age	Number	Percent-age	Number	Percent-age
9 months to 11 months.....	22	36.7	30	40.0	52	38.5
1 year to 1 year and 6 months....	28	46.7	31	41.3	59	43.7
1 year and 7 months to 2 years....	7	11.6	10	13.3	17	12.6
2 years and 1 month to 2 years and 9 months.....	3	5.0	4	5.4	7	5.2
Total.....	60	100.0	75	100.0	135	100.0

An individual case study was made of each of the 135 pedagogically accelerated students to see whether they were well-rounded in their development or whether they were misfits. In each case study, the following points were considered: (1) mental capacity, as measured by a standardized test of general intelligence, (2) physical development, (3) attitude of other students toward the student, (6) participation in extra-curricular activities, (7) teachers' estimates of student's social adaptability, and (8) the student's own statement as to his feeling of harmony or lack of harmony with the group in which he found himself in high school.

General intelligence.—Table II shows the G.I.Q. distribution of these 135 students pedagogically accelerated from nine months to two years and nine months. If 95-104 G.I.Q. is taken as average intelligence, a study of this table shows that none of these students were below average in intelligence; only 8.1 per cent were average, while 91.9 per cent were above average; 68.2 per cent tested superior or very superior, i.e., had an I.Q. of from 115 to 154. This rating is considerably higher than that of the entire student body, 21.5

by the time he enters the low tenth grade. In this article all students in the low tenth grade less than fourteen years and nine months old are considered pedagogically accelerated; all students in the low tenth grade more than fifteen years and nine months old are considered pedagogically retarded. Students in the low eleventh grade are considered normal when they are from fifteen years and nine months to sixteen years and nine months old.

per cent of which, at the time this study was made, tested below average intelligence, 27.9 per cent average, and 50.6 per cent above average; only 21.2 per cent tested superior or very superior.

TABLE II

G.I.Q.*	Number of Students	Percentage
Below 95.....	0	0.0
95-104.....	11	8.1
105-114.....	32	23.7
115-129.....	56	41.5
130-154.....	36	26.7
Total.....	135	100.0

* G.I.Q. (group intelligence quotient) is the result of dividing chronological age by mental age, obtained from score made in Terman Group Test of Mental Ability.

Scholarship.—Mental tests showed that the majority of these pedagogically accelerated students were of unusual mental capacity and apparently should have been able to carry senior high school subjects successfully. Table III shows the scholarship standing of the accelerated students and of the entire student body for the fall term of 1922.

TABLE III

	PERCENTAGE OF SCHOLARSHIP GRADES*			
	I	II	III	IV, V, and Incompletes
Students accelerated from 9 months to 2 years and 9 months.....	34.8	42.2	20.3	2.6
Entire student body.....	18.5	41.4	30.2	9.8

* I = excellent, 90-100; II = thoroughly satisfactory, 80-90; III = passing, 70-80; IV = unsatisfactory, 60-70; V = failure, 59 and below.

It is an unusual record that, during the fall term of 1922, of the group of 135 students pedagogically accelerated nine months or more, only 27 students received two or more grades of the third section or one grade of the fourth or fifth section. A study of the scholarship grades of these accelerated students made during the second quarter of the spring term of 1923 showed that their work was consistently of a high order. Thirty per cent of it was "excellent"; 47 per cent, "thoroughly satisfactory"; 18 per cent, "pass-

ing"; 2.8 per cent "incomplete"; and only 2.3 per cent, "below passing."

In so far as scholarship accomplishment can be measured by school marks, it would appear that pedagogically accelerated students succeed even better than do normal and retarded children.

However, we must consider not only a child's chronological, mental, and pedagogical ages, but also his physical, social, and moral ages. The normal child is one whose development in all of these phases is nicely balanced and approaches the maximum. It is the function of the school to train the whole child.

Physical development.—By comparing the weight of each pedagogically accelerated child with the normal weight of a child of the same age and height, it was found that 69 per cent of this accelerated group were normal or varied only ten pounds from the normal; 10 per cent were more than ten pounds overweight; and 21 per cent were more than ten pounds underweight. A comparison of the height of each accelerated child with the normal height¹ of a child of the same age and weight showed that 66 per cent were normal or varied only two inches from the normal; 19 per cent were more than two inches above normal; and only 15 per cent were more than two inches shorter than the normal child. In other words, the height and weight of these pedagogically accelerated students were in approximately 80 per cent of the cases normal or above normal.

Social development.—Unfortunately, at present, we have no widely accepted standardized objective scales for measuring the social and moral ages of children. Hence we are obliged to resort to subjective ratings, namely, teachers' estimates. The teachers who knew this group of students best were their faculty advisers. They were asked to rate them in leadership, to state the attitude of other students toward them, and to estimate whether these students were socially adapted to the groups with which they associated.

Table IV shows the faculty advisers' ratings of these pedagogically accelerated students in leadership, based on a seven-point

¹ Norms for weight and height developed by the Child Health Organization of New York City.

scale. Three significant facts are revealed by this table: (1) the percentage of pedagogically accelerated girls who are above average is approximately twice as great as the percentage of pedagogically accelerated boys who are above average; (2) the percentage of boys rating below average is approximately the same as the percentage of girls rating below average; (3) the ratings for both boys and girls give a fairly normal curve of distribution. This is a gratifying result, since the basis for rating the pedagogically accelerated student in leadership was in each case his precedence as compared with the whole student group with which he associated.

TABLE IV

RATING IN LEADERSHIP	BOYS		GIRLS		TOTAL	
	Number	Percent-age	Number	Percent-age	Number	Percent-age
Very superior.....	1	1.7	3	4.0	4	3.0
Superior.....	2	3.3	9	12.0	11	8.1
Slightly above average.....	10	16.7	21	28.0	31	23.0
Average.....	26	43.3	14	18.7	40	29.6
Slightly below average.....	15	25.0	21	28.0	36	26.7
Inferior.....	5	8.3	7	9.3	12	8.9
Very inferior.....	1	1.7	0	0.0	1	.7
Total.....	60	100.0	75	100.0	135	100.0

Table V shows the faculty advisers' estimates of the attitude of other students toward the pedagogically accelerated students. Table VI shows the advisers' estimates of the extent to which these students appeared to be socially adapted to their high-school group. The significant fact revealed in Table VI is that the teachers esti-

TABLE V

ATTITUDE OF OTHER STUDENTS	BOYS		GIRLS		TOTAL	
	Number	Percent-age	Number	Percent-age	Number	Percent-age
Teased.....	2	3.4	0	0.0	2	1.5
More or less ignored.....	18	30.5	12	16.2	30	22.5
Liked.....	37	62.7	56	75.7	93	70.0
Particularly admired.....	2	3.4	6	8.1	8	6.0
Total.....	59	100.0	74	100.0	133	100.0

mated that only 10 per cent of the students were not socially adapted to the groups with which they associated in school.

TABLE VI

	BOYS		GIRLS		TOTAL	
	Number	Percent- age	Number	Percent- age	Number	Percent- age
Socially adapted.....	41	73.2	61	82.4	102	78.5
Partially adapted.....	8	14.3	8	10.8	16	12.3
Not adapted.....	7	12.5	5	6.8	12	9.2
Total.....	56	100.0	74	100.0	130	100.0

Participation in extra-curricular activities would appear to be some indication of a student's social adaptation. Sixty-four per cent of this group of pedagogically accelerated students participated in from one to four of the following school activities: swimming, basketball, baseball, football, tennis, volley-ball, dramatics, journalism, debating, band, and orchestra.

Election to a student office or appointment to serve on a committee would also appear to be an indication of a student's social adaptation. Table VII shows the percentage of students elected

TABLE VII

	BOYS		GIRLS		TOTAL	
	Number	Percent- age	Number	Percent- age	Number	Percent- age
Receiving special appointments....	11	18.6	25	33.8	36	27.1
Receiving no appointments.....	48	81.4	49	66.2	97	72.9
Total.....	59	100.0	74	100.0	133	100.0

or appointed by their fellow students to fill school offices or perform special duties. While the number of students in this group receiving special appointments is large in comparison with the number of students in the entire student body receiving appointments, a closer study of these appointments showed that in many cases they are appointments to minor positions. The more important elective student-body offices are seldom gained by the pedagogically

accelerated students. This is due partly to the fact that in this school the student of great athletic prowess is the school hero. While our data show that in most cases pedagogically accelerated students are superior both mentally and physically to children of their own age, they are often not equal in physical development to their normal and pedagogically retarded classmates.

A further point to be considered in the social adaptation of a pedagogically accelerated student is the student's own feeling of harmony or lack of harmony with his school environment. To the question, "Do you feel that you are having the opportunities you should have, or would like to have, in high school for participation in school activities?" 81 per cent of 103 pedagogically accelerated students answered in the affirmative. They were asked to reply in writing as frankly and as honestly as they could, with the assurance that all names would be withheld.

Among the explanations given by those who felt that they were not having sufficient opportunity for participation in school activities were the following:

If there were more light-weight teams, I could participate.

My lessons take most of my time, so that I have little opportunity for outside activities.

I am new to the school, and it is very difficult for me to meet and really know students and to get into things.

I have to work, and I cannot afford to spend time on school activities.

Of 81 pedagogically accelerated students who were asked to answer as frankly as they could the question, "Are there ways in which you feel that you are not adapted to, or do not feel in complete harmony with, the school group with which you associate?" 82 per cent answered "No." Among the explanations given by those students who did not feel in harmony with their fellows were the following:

I do not dance, and at almost every high-school social function there is dancing. [In some cases this objection was due to religious views of parents rather than to the student's choice or to his lack of social development.]

I am too young and too small for athletic activities.

By nature I am not gregarious. I do not like to mix with other students. Just a few friends are all I want, and I have them.

All data of this kind must be carefully evaluated and, when possible, supplemented by additional facts. For example, during the semester in which this study of accelerated students was made, approximately 28 per cent of the entire student body, of which the accelerated students were a part, was pedagogically retarded. This means that in many cases these accelerated students were thrown into competition with students several years older than themselves. It is rather surprising, then, that so large a percentage of them stated that they felt in harmony with their associates.

There is a question, of course, as to whether the accelerated student can be a fair judge of his relation to the group. Has he had a wide enough range of experiences and associations, or is he sufficiently introspective, to know whether he is socially adapted to his classmates? We have seen that these pedagogically accelerated students as a group are very superior mentally and that they excel in scholarship. It is possible that their feelings of successful competition in the classroom may color their judgment as to their general social adaptability. Whether this is the case or not, we want the student's opinion. The fact that the accelerated student in 82 per cent of the cases studied felt that there were no ways in which he was not in harmony with the school group showed that he himself was happy in his school environment.

As has been stated, the range of pedagogical acceleration among the 135 cases on which this study is based was from nine months to two years and nine months. To show that those students who are most accelerated are not always the ones least adapted to the general life of the school, Table VIII, listing some of the salient points in the case histories of every student accelerated one year and nine months or more, is presented. The most significant facts revealed by this table are the following: (1) these students pedagogically accelerated from one year and nine months to two years and nine months tested very much above average in general intelligence; 15 per cent were superior (G.I.Q., 123-127), and 85 per cent were very superior (G.I.Q., 130-154); (2) there was not a single failure in scholarship; a study of the total number of grades received showed that 26 or 46.4 per cent were I's; 26 or 46.4 per cent, II's; 3 or 5.4 per cent, III's; and only 1 or 1.8 per

TABLE VIII

STUDENT	SEX	GRADE IN SCHOOL	AGE IN YEARS AND MONTHS	AMOUNT OF PEDAGOGICAL ACCELERATION	G.I.Q.	SCHOLARSHIP GRADES FOR FALL TERM, 1923	RATING IN LEADERSHIP	PHYSICAL DEVELOPMENT	
								Weight for Age and Height	Height for Age and Weight
1.....	Boy	H. 11	14-6	1 yr., 9 mos.	130	I, I, I, I, I, II+, II+, II-, II-	Average	Normal	Normal
2.....	Boy	H. 11	14-6	1 yr., 9 mos.	133	I, I-, I-, I, I	Average	3 lbs. over-weight	Normal
3.....	Girl	L. 10	13-0	1 yr., 9 mos.	143	I, I, I+, I, II	Slightly above average	1 lb. over-weight	Normal
4.....	Girl	H. 11	14-6	1 yr., 9 mos.	153	I, I, I+, I, II	Average	15 lbs. under-weight	3 in. above normal
5.....	Girl	H. 12	15-5	1 yr., 10 mos.	123	I-, I, II+, I	Superior	3 lbs. over-weight	Normal
6.....	Girl	H. 12	15-5	1 yr., 10 mos.	132	II-, II-, I-, II+	Very superior	3 lbs. over-weight	4 in. below normal
7.....	Girl	H. 11	14-4	1 yr., 11 mos.	127	Incomplete, II-, II-, III+	Slightly above average	5 lbs. under-weight	1 in. above normal
8.....	Girl	H. 11	14-1	2 yrs., 1 mo.	130	II+, II-, I+, II	Slightly above average	1 lb. over-weight	1 in. above normal
9.....	Boy	H. 11	14-0	2 yrs., 3 mos.	136	II, III-, III+, II+	Average	85 lbs. over-weight	Normal
10.....	Boy	L. 10	12-5	2 yrs., 4 mos.	154	I, I, I-, I-, I	Slightly below average	Normal	Normal
11.....	Girl	H. 11	13-8	2 yrs., 7 mos.	133	II+, II+, II, II	Inferior	3 lbs. over-weight	Normal
12.....	Girl	H. 11	13-6	2 yrs., 9 mos.	147	I, I, II, I-	Inferior	20 lbs. under-weight	1 in. below normal
13.....	Boy	H. 11	13-6	2 yrs., 9 mos.	147	I, II, II, II+	Slightly below average	2 in. below normal	2 in. below normal

cent, incomplete; (3) all students pedagogically accelerated from one year and nine months to two years and three months were rated by faculty advisers as average or above average in leadership; all accelerated more than two years and three months were rated as below average in leadership; (4) the physical development, based on height and weight for age, was in most cases normal or nearly normal.

The foregoing data show that the pedagogically accelerated student is not as great a misfit in high school as he is commonly supposed to be. On the basis of this study of 135 cases, it would appear that the superior mental capacity of the accelerated student is the most potent factor in the realization of his general adaptation to the school environment. His physical development, which in most cases is normal or nearly so, is doubtless also an important factor. However, a few of the cases studied were successful only in scholastic accomplishment. In these cases, there was not the balance that there should have been between each child's mental, pedagogical, physical, and social ages. An individual case study, showing the development of each of these four parallel ages, appears to be the best basis for counseling a particular student as to the wisdom of his advancing ahead of his normal grade. If data compiled from a larger number of case studies, such as are presented in this article show the same general tendencies, it would appear that pedagogical acceleration within limits is one of the school's best methods of meeting the needs of the superior child.

THE QUALITIES ESSENTIAL TO A DEAN OF GIRLS

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The question of the qualities which a dean of girls should possess cannot be answered satisfactorily by one whose perspective is gained solely from the point of view of the deanship. The actual daily experiences accumulated in meeting the problems which confront her are, of course, valuable in helping a dean to analyze and to determine the qualities which make for success or failure. Her perspective, however, must be supplemented and enlarged by the constructive criticisms of those who are vitally interested in and concerned with the services she renders to the school.

A genuine desire to secure the opinions of those who view the deanship from without prompted the writer to present the question, "What do you think are the qualities essential to a dean of girls?" to some five hundred individuals of different ages and interests who had at some time or other come into personal contact with a dean of girls.

The groups to which the question was submitted were carefully selected so that the results might be representative. The first questioned were high-school girls and boys who have very intimate relations with their deans. Naturally, an honest, direct opinion was obtained from them, for this is the age of candor and frankness. College girls from both coeducational institutions and women's colleges also furnished material. Among this group were representatives of Rockford College, Northwestern University, the University of Chicago, Vassar College, Wellesley College, and Smith College. In view of the fact that a dean of girls in a coeducational school has definite relations with boys and men, answers were sought from boys and men attending the Commercial High School, Atlanta, Georgia; the University High School, University of Minnesota; the University High School, University of Chicago; the University of Wisconsin; the University of Chicago; Dartmouth College; and

Harvard University. Up to this point the investigation was one-sided, giving only student opinion, which, of course, is not always mature and far-sighted. It was felt that the balanced judgment of educators and the sympathetic understanding of mothers were needed. To round out the perspective, professional men (doctors and lawyers) were asked to add their bit, because through their intimate contact with life they develop a keen insight into human actions which the academic world seldom gets.

From the mass of material which was received it seemed almost hopeless to expect any consensus of opinion. To my surprise I found only ten or fifteen outstanding traits. Whether the answer came from an immature little Sophomore or from the time-mellowed experience of the family doctor, certain qualities were demanded. They set their standards high; they asked from us nothing but the best; they put the goal far beyond our attainment. Indeed, one mother wrote, "This is the description of an angel, not of a mortal dean of girls." Perhaps it may be a little discouraging to the deans, but it is truly inspiring as well, for it assures us that our position is one of trust and real responsibility, that it offers us an opportunity for genuine service and study, and that our efforts are needed and sincerely appreciated.

The outstanding quality might be appropriately stated in the words of Solomon's prayer, "Give, therefore, thy servant an understanding heart to judge thy people that I may discern between good and bad." One needs that broad basic understanding of girls and young women—the understanding founded on a thorough knowledge of adolescent psychology and the sympathetic yet intelligent insight into human nature—which comes only to the person who is eager, who has ability, who takes the time to analyze the various types of young girls, and who knows well that there are normal natural laws of adolescent development and that there are likewise variations from the set type, all of which are part of adolescence. A well developed sensitiveness to youthful emotions, impulses, and desires and a knowledge of the whims, temptations, and weaknesses of youth are absolutely necessary. The sincere understanding makes us willing to know and be interested in the modern girl, "the younger generation," and the so-called "fusser"

and gives us a real desire to help to produce a finer, more wholesome generation of girls. Let us have the willingness and good sense to listen to the new ideas of our students and not be, as one girl put it, "a spoil sport."

It is perhaps this real longing for genuine understanding which prompted many girls, both in high school and in college, to say most emphatically, "A dean should be married and have daughters of her own."

This keen and sympathetic insight must constantly impress us with the fact that only by intimate contact, by companionableness, and by sharing their games and their pleasures can we convince the younger generation that we have faith in them, that we see great good in them, and that we have the loyalty toward them which they both deserve and desire.

Possessed of the understanding heart, one must also have the magnetic personality and happy disposition which will attract young people because of a warm friendliness and genial charm. Frigid dignity and austere poise are forbidding and discouraging to effervescent youth. Almost nothing is impossible for the woman of inspiring and influential personality, the personality which is an example and which commands respect while encouraging confidence. As one wide-awake girl wrote, "Oh, give me a woman who is approachable, not stiff, who has a strong personality but is not domineering, who is frank and open but too big to stoop to sarcasm or petty animosity." That should be our aim!

At times administrators feel that the students of the present time have no sense of values and that things intellectual are in disrepute among them. It came as a surprise to me that every young girl and boy and every college woman and man placed the scholarship of the dean almost at the top of the list. According to most of those who replied, the ordinary college graduate is not qualified to hold the position. The dean must have a real appreciation of the values of an education combined with considerable scholarly achievement so that she may not only command the respect of the student body but also secure recognition among her colleagues. She must be progressive in her own field and enthusiastic and alive to the responsibilities and possibilities of her position.

Through broad and various contacts, she must make herself capable of directing the scholastic interests of her students. She must become an expert on the education of women. These young people do not want any mediocre figurehead in the position; they demand a broad-minded, well-informed person who is worthy of being consulted. We cannot sit back and stop learning. Our task is too great.

Not only must our scholastic standards be high, but our ideals and morals must be exemplary. As a young friend of mine suggested, "I picture a cultured, refined womanly woman with lofty ideals based on absolute conviction, but not the perfect saint, not the 'goody-goody,' the woman who knows that 'to err is human,' the person who has a religion but who does not oppress and depress youth with its demonstration." How young people squirm and wriggle under firmness and discipline, but deep down in their hearts how they do despise and look down on the inconsistent, vacillating, lenient, insincere disciplinarian. Once your decision is thoughtfully and sincerely made, have the courage of your convictions, but do not be stubborn. No weakling ever influenced young people to higher things.

And yet avoid preaching; do not be too serious. Look for the funny side and learn the contagion and curative power of a good hearty laugh. In the midst of trying, nerve-racking situations how we do need an active and keen sense of humor. It is our saving grace. Every dean could give from her own experience numerous examples of tense situations relieved by a funny remark or a humorous subtle turn to a phrase. Happy is she who is blessed with that invaluable quality, a sense of humor.

Hand in hand with this trait go sound common sense and sane and balanced judgment. We must train ourselves to get all of the facts before passing judgment. We must form the habit of weighing all of the evidence and then making a quick but careful decision. We must endeavor to have our judgments impersonal and unbiased, remembering that no standard is ever infallible. Have the common sense to trust the student so far as possible. Discriminate between the big issues and the less important. Lead and direct in the big things but give the girls the responsibility of the unimportant.

The position calls for executive ability combined with constructive methods of administration. Students want business-like methods but not obvious, overwhelmingly depressing efficiency. The complex and widely different situations and problems of even one day call for quick wit; a cool, clear head; and a versatile mind. A few minutes after we have been confronted with a serious disciplinary case we may have to change our mood and our thinking to arrange details for the "Junior Prom." Each problem demands vigor, interest, and good management.

Human beings naturally love justice, and at no time in their development are they more conscious of fair play and more insistent on it than in their teens and early twenties. To deal with young lives one must appreciate the point of view of the other person regardless of whether one likes or dislikes him. It calls for the mind which thinks impersonally and impartially, a bigness of character which "bears malice toward none and charity for all."

Although the duties of a dean should be largely executive and academic, there will always be a great demand on her strength and her time for social duties. To serve in this capacity a woman needs a social background which is born of sincere interest and experience in social events, a well-defined set of standards of social conduct, and that extraordinary graciousness which makes it possible for her to mingle with and enjoy all kinds of people. The sympathetic disposition which can break down the barriers of race, religion, and social status and make people comfortable and at ease is rare, but it is a real asset in the case of the dean.

Superficial though it may seem, young people are oversensitive at this period to any lack of social ease and likewise just as quick to copy exemplary social standards.

Knowing well the impressionableness of young people, I was not surprised to find that both age and dress were brought into the answers. There is naturally the clamor for youth among the deans, the youth which is not chronological but spiritual. It is the quality which makes the dean remember that she was once a high-school girl and that once she too had difficulties and heartaches. She ought to be old enough to have had experience but not so old that she has forgotten how to play. Many were so bold as to put limits to the age—thirty to fifty—but most of them realized that

youth and old age are not measured by the calendar. Those who deal only with high-school girls will appreciate their demands for good health, no nerves, "pep," athletic ability, and the quality most talked of among high-school students, "good sportsmanship."

The dress requirements were sane and sound. As leaders, we all appreciate that we are under obligation to show refinement, good taste, and neatness of dress.

Attention to personal appearance and personal attractiveness ought to be a duty. Many a girl has been estranged by "the frump." Most of the answers scorned masculinity of dress but begged for the sensible style of good-looking clothes. None of the demands were frivolous or unreasonable. They were the honest feelings of young people who are in the hero-worship period and who like to point with pride to their leader.

In summarizing, let it be said that no person is qualified to be a dean who has not first proved that she is a true educator, one who has founded her theories on sound educational principles, who has for the keynote of her work the individual student, and who has for her goal and steadfast purpose the building of honest, sincere, and wholesome character among young women, one who feels that it is her responsibility to send out from our institutions of learning young people equipped with such a code of ethics and such strong principles that they will be able to go into the world and improve human relations.

EXAMINATIONS IN THE HIGH SCHOOL

HUGH A. C. WALKER
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To what extent are formal examinations, the averaging of marks, and the making of records and reports distinctly beneficial to high-school students? How much of the teacher's time and energy may wisely be directed toward these activities and consequently diverted from the main task, namely, teaching? Doubtless the principle which should guide administrators in answering these questions is the principle applied in the economics of business—the laws of increasing and decreasing returns. With due allowance made for a decrease in other directions, whatever increase in the expenditure of time and effort in any certain direction brings increasing benefits to students is worth while. When that point is reached when such expenditure ceases to produce desirable results in corresponding measure, a halt should be called.

The study here outlined was undertaken for the purpose of determining the practice of representative high schools in different sections of the country with reference to these matters, the information secured to be used as a basis for establishing a suitable line of procedure for the Lynchburg High School. In order to obtain the desired information a questionnaire was sent to one hundred high-school principals. These principals were generous and prompt in reporting, eighty-one replies having been received up to the time the tabulation was made. The schools included in the investigation range in enrolment from 175 to 5,500 and are located in various parts of the United States, from Portland, Maine, to El Paso, Texas, and from Jacksonville, Florida, to Seattle, Washington. Twenty-one schools have enrolments of 1,000 or less; sixteen schools have from 1,000 to 1,500 students; thirteen, from 1,500 to 2,000; eighteen from 2,000 to 3,000; and twelve from 3,000 to 5,500. One school failed to report its enrolment.

The following questions were asked:

1. Are formal written examinations required of pupils at the end of the semester to help determine the pupils' averages for the semester?

2. If so, how many days are allotted to examinations?
3. How many examinations a day does a pupil stand?
4. What is the time limit of each examination?
5. Are the examination questions for all pupils taking the same course but in different classes uniform? Or does each teacher prepare questions for his own classes?
6. What relative weight is given to daily work and to the examination in determining the final term average? Daily work, ____ per cent; examination, ____ per cent.
7. What relative weight do you think fair and equitable?
8. Are any pupils excused from standing examinations? If so, what are the requirements for exemption?
9. Are final examinations alone ever permitted to determine a pupil's promotion if he has failed on his daily work for the semester? What do you consider the right practice on this point?
10. Are pupils' grades expressed in letters or by the percentage scale? Based on frequency curve?
11. What change in practice under any of these questions would, in your judgment, be desirable?
12. What is your enrolment?
13. How many clerks are employed for office work?

Table I summarizes the replies to these questions.

In practically all of the schools which do not give formal written examinations at the end of the semester independent tests are given from time to time during the semester, largely at the discretion of the teacher. In such cases the test usually occupies the time of the regular class period. Fifty schools give formal examinations, while thirty-one schools do not.

In twenty-five schools the time allotted to examinations is limited to three days or less. In nineteen schools from four to seven days are devoted to examinations. Of these nineteen schools, five schools devote five days and one school devotes seven days to examinations. In two of these six schools the regular daily schedule goes on after the examinations. The number of examinations taken by a student in one day varies from one to three, and in some cases more than three are scheduled. In four schools a student takes only one examination a day; in thirty-nine schools there are two or more examinations each day.

The time limit of each examination would naturally be supposed to depend very largely on the number of examinations taken by a

TABLE I
SUMMARY OF REPLIES TO QUESTIONNAIRE

	NUMBER OF SCHOOLS IN EACH SECTION OF THE UNITED STATES					NUMBER OF SCHOOLS REPORTING
	East	South	Central	Middle West	Far West	
Are formal examinations required at the end of the semester?						
Yes.....	3	17	19	7	4	50
No.....	10	4	8	6	3	31
Total.....	13	21	27	13	7	81
Number of days allotted to final examinations:						
Not more than three days.....		8	10	5	2	25
Four to seven days.....	3	6	6	2	2	19
Total.....	3	14	16	7	4	44
Time limit in minutes of each examination:						
45-90.....	2	5	10	7	4	28
100-120.....	4	5	5	.....	.....	9
135-150.....	4	4	4	.....	.....	8
180.....	1	3	.....	1	.....	5
Total.....	3	16	19	8	4	50
Are examination questions uniform or does each teacher prepare his own questions?						
Uniform.....	2	5	6	3	.....	16
Individual.....	1	10	11	3	4	29
Total.....	3	15	17	6	4	45
Weight given to examination in determining the final term average:						
One-half.....		4	1	.....	.....	5
Two-fifths.....		2	.....	.....	.....	2
One-third.....	2	5	12	2	2	23
One-fourth.....	1	3	4	1	1	9
One-fifth.....	2	3	2	1	1	8
One-seventh.....	1	.....	1	.....	.....	1
One-tenth.....	1	.....	.....	.....	.....	1
Total.....	2	15	19	9	4	49

TABLE I—Continued

	NUMBER OF SCHOOLS IN EACH SECTION OF THE UNITED STATES					NUMBER OF SCHOOLS REPORTING
	East	South	Central	Middle West	Far West	
Opinions of principals as to proper weight of examination:						
One-half.....	1	3	1	.....	.....	5
Two-fifths.....	1	.....	.....	.....	.....	1
One-third.....	2	6	9	5	2	24
One-fourth.....	1	2	7	4	1	15
One-fifth.....	.....	3	5	1	1	10
One-seventh.....	.....	.....	.....	1	.....	1
One-tenth.....	.....	1	.....	.....	.....	1
Total.....	4	16	22	11	4	57*
Are any pupils excused from examinations?						
Yes.....	2	8	7	3	1	21
No.....	2	8	11	4	3	28
Total.....	4	16	18	7	4	49
Should examination results alone determine promotion?						
Yes.....	1	3	2	3	.....	9
No.....	6	10	19	4	4	43
Total.....	7	13	21	7	4	52
Marking system:						
Letters or numbers.....	6	6	11	10	4	37
Letters and percentage scale.....	1	4	6	2	.....	13
Straight percentage scale.....	3	10	9	.....	1	23
Total.....	10	20	26	12	5	73
Based on normal curve....	1	1	2	8	1	13

* Only 50 principals reported on this item. Five gave one-third or one-fourth as their opinion; one said one-fourth or one-fifth; one, one-fifth to one-third. In each case both fractions were scored.

pupil in one day. With allowance made for this difference, however, there appears to be a wide variety of practice among the reporting schools, the time limit running all of the way from forty-five minutes to three hours. Where the shorter time limit prevails examinations usually occupy the time of one or two regular class periods, the remainder of the regular daily schedule not being disturbed at all. We find that in twenty-eight schools the exami-

nation runs from 45 to 90 minutes; in nine schools from 100 to 120 minutes; in eight schools, from 135 to 150 minutes; while in only five schools does it last for three hours.

In sixteen of the forty-five schools reporting, the examination questions are uniform, being made up by committees of teachers or by the heads of the departments. In twenty-nine schools the individual teacher prepares the questions for his classes, sometimes subject to approval by the head of the department. Two of the twenty-nine schools report that some of the questions are uniform and that some are not.

There is considerable variety in practice and opinion concerning the relative weight of the daily work and the examination mark in determining the pupil's standing for the semester. Of forty-nine schools reporting on this item, forty-two give a valuation of one-third or less to the examination. Five schools count it one-half; two schools, two-fifths; twenty-three schools, one-third; nineteen schools, one-fourth or less. Where no reply was given to Question 7 the principal's opinion was taken to be in keeping with the practice. On this basis five principals consider an examination weight of one-half as proper; one thinks two-fifths better; twenty-four favor one-third; fifteen, one-fourth; ten, one-fifth; one, one-seventh; and one, one-tenth.

In the case of the question, "Are any pupils excused from standing examinations?" twenty-one of the forty-nine schools reporting allow exemptions, while twenty-eight do not. Where exemptions are permitted, the scholarship requirement ranges from 80 to 90, and a requirement of satisfactory conduct and attendance is also usually made. Several principals expressed the opinion that examinations are valuable as training for pupils because they necessitate a review and a comprehensive grasp of the semester's work and that for this reason no pupils should lose the benefits thus to be derived. A few principals reported that formerly exemptions were granted but that the practice has been discontinued as unwise. Four schools exempt all pupils with good daily grades except Seniors. Two schools exempt Seniors only.

It is the opinion of a large majority of the principals—forty-three out of fifty-two—that the final examination alone should not deter-

mine the student's standing or promotion but that good daily work is of far greater importance. Two principals say that they have never known pupils who failed in daily work to pass examinations successfully. Some principals make the reservation, which doubtless would be agreed to by many others, that occasionally in some special case the examination may well determine promotion.

When we tabulate the data concerning the marking systems in use in the different schools, we find that of the seventy-three schools reporting on this item thirty-seven grade in letters or numbers; thirteen use letters for the pupils' reports and the percentage scale for the office records; and twenty-three use the percentage scale entirely. The use of both letters and the percentage scale in some schools is probably felt to be necessary because of the difficulty encountered in averaging grades which are expressed in letters. It is interesting to note that only thirteen schools claim to have any regard for the frequency curve in distributing pupils' grades and that eight of these thirteen schools are located in the Middle West. The opinion is expressed by several principals that more attention should be given to this method of distribution in order to overcome somewhat the wide disparity in standards of grading by different teachers in the same school.

Since the subject of examinations and records is closely related to that of office help, questions were included concerning the enrolment and the number of clerks employed. It is a fact only too well understood by high-school administrators that the burden of keeping voluminous records, preparing reports, and taking proper care of the other necessary routine details often seriously interferes with the more important constructive work to which the principals and teachers should give their best energies. Every degree of provision for clerical help is found in Table II. Only one school, situated in a southern city and with an enrolment of 790, reports that no clerk is provided. The number of assistants varies widely, however, even among schools of the same size and location. For example, one school of 2,326 pupils in a southern city employs one clerk, while another school in a city of the same state, with an enrolment of 1,850, has three clerks. In one of the central states a school with an enrolment of 1,800 has the help of

seven clerks; another school in the same state with an enrolment of 4,100 employs only two clerks; a third school in the same state with an enrolment of 530 employs two clerks. The average number of clerks for each of the eighty schools reporting is 2.7. There is one clerk for every group of 681 pupils of the 145,826 enrolled.

TABLE II
THE NUMBER OF SCHOOLS EMPLOYING FOR OFFICE WORK THE SPECIFIED
NUMBER OF CLERKS

Enrolment	Number of Clerks									Number of Schools Reporting
	0	1	2	3	4	5	6	7	8	
175-1,000.....	1	14	6	....	....	....	....	....	....	21
1,000-1,500.....	4	8	4	....	....	....	....	....	....	16
1,500-2,000.....	1	6	4	....	1	....	1	....	....	13
2,000-2,500.....	2	3	3	3	....	....	....	....	....	11
2,500-3,000.....	....	1	2	3	....	1	....	....	....	7
3,000-4,000.....	....	1	1	1	1	3	....	1	1	9
4,000-5,500.....	....	1	....	....	1	....	....	1	....	3
Total.....	1	21	26	14	7	3	4	1	2	80

In addition to the information given in answer to detailed questions, many interesting and suggestive comments were made by certain principals, some of which are the following:

Briefly, we follow this plan: We announce that on Monday at 8:45 A.M. lessons that usually recite at the first period will be examined. Two periods (80 minutes) are given for this purpose. The second period is dropped from the day's schedule. At the conclusion of the examination, the day's schedule is picked up with the third period and continued throughout the day, unless an afternoon series is desired. . . . We do not give as much prominence to examinations as has been done in the past.

Instead of the traditional written examinations at the end of the term, which cut out an important block of time, we give in the senior high school examinations, during the regular class periods, that cover pretty fully the entire term's work. Every subject is allotted at least two of its class periods of forty-five minutes each, and in some cases three class periods, on as many different days. We believe thoroughly in the value of examinations for all pupils, and, as our high-school system does not provide—and wisely so, in my judgment—for the old type of grueling examinations at the end of each semester, this school accomplishes almost the same good results without interruption of the regular year's program. No pupils are excused from taking these major tests.

Cut out your examinations or cut them down. . . . Pupils should have some practice in examinations, but don't scare them and then expect them to do anything. Examinations are limited to one hour and occur in the period in which the subject is taught. The regular school work goes on every day.

No examinations are given. Teachers use their judgment in making use of devices for determining school marks.

We still believe examinations a good thing for scholarship.

The value of an examination, from my point of view, is the review of the semester's work.

No examinations are given. Promotion is determined by the work done during the term. Tests are permitted at the teacher's discretion. We are well satisfied with our method and would not go back to final examinations.

Our grades are 1.2 (best), 1.1 and 1.0 (average), and .9 and .8 (poor), based somewhat on the frequency curve.

Grades in the teachers' class books are recorded by the numbers 8, 7, 6, 5, and 4. Grades for all office records and reports to the parents are recorded by the letters A, B, C, D, and E. The grade 6 (C) is designed to represent the middle 50 per cent of the class. The grade 8 (A) is reserved for markedly superior work, while the grade 4 (E) is intended for those who have failed and will receive no credit for the course. Experience has shown that in the assignment of grades the following limits may be regarded as safety zones: A, from 8 per cent to 12 per cent of the group; B, from 14 per cent to 20 per cent; C, from 44 per cent to 48 per cent; D, from 14 per cent to 20 per cent; E, from 8 to 12 per cent.

Although the majority of the high schools in the United States perhaps still hold to examinations, the tendency undoubtedly is toward a lessening of the time and attention given to them. Instead of taking up a week or more of the year's schedule at the end of each semester for an examination program, many schools are now giving the examinations during regular class periods without disrupting the rest of the daily schedule.

Less emphasis is being placed on examination results as compared with daily work, this being shown by the large proportion of schools that count the examination grade at one-third, one-fourth, one-fifth, or less in determining the pupil's semester average.

It is somewhat surprising to find that comparatively few schools seem to be making any serious effort to establish standards for the

distribution of pupils' grades, the marks assigned apparently being left largely to the judgment of the individual teacher.

Other things being anywhere nearly equal, it seems desirable to simplify as much as possible the clerical work demanded of teachers. The less complicated the system of making records and averages, the more time and energy are set free for actual teaching. Three six-week reporting periods, with an examination at the end counting one-fourth or equal in value to one six-week period, would simplify the averaging of marks by the teachers and would apparently do justice to the situation. One very noteworthy and interesting departure from the usual plan of making reports is that in use at the William Penn High School, Philadelphia. Three reports are sent out each semester, the grades on each report representing the standing of the pupil from the beginning of the semester up to that time. Such a plan obviates the averaging of a series of marks at the end of each semester.

Unfortunately, it is evident that in many schools both the principal and the teachers are still seriously hampered in their real work by a lack of sufficient clerical help. This condition seems exceedingly unwise from a business point of view and should be remedied.

THE PROFESSIONAL TRAINING OF HIGH-SCHOOL TEACHERS

L. H. WHITCRAFT

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During the spring and summer of 1923 the writer made a study of the catalogs of 179 institutions of higher learning, in the territory of the North Central Association of Colleges and Secondary Schools, for the purpose of determining the professional courses which are most available for the training of a teacher in a first-grade high school—a high school eligible to membership in the North Central Association—judgment being based on the professional curriculums in education offered by the various institutions.

The study also included an analysis of the requirements for state high-school certificates of the states in which the institutions are located and of the curriculums of the institutions in an attempt to discover the common elements prescribed as fundamental to high-school teacher-training and to ascertain the amount in semester hours usually required.

Requests for catalogs or announcements of the education courses offered were sent to all institutions of higher learning in the North Central Association. Catalogs or announcements were received from 46 universities, 80 colleges, 43 normal schools, and 10 junior colleges. These 179 institutions are distributed among the states as follows: Arizona, 1; Colorado, 5; Illinois, 24; Indiana, 12; Iowa, 16; Kansas, 12; Michigan, 13; Minnesota, 13; Missouri, 17; Montana, 4; Nebraska, 8; New Mexico, 1; North Dakota, 4; Ohio, 23; Oklahoma, 9; South Dakota, 6; and Wisconsin, 11. Wyoming is the only state in the territory of the North Central Association not included in this investigation.

The fact that the institutions and the states included in this study lie within the territory of the North Central Association is sufficient reason for much similarity in the courses offered and prescribed. The minimum number of semester hours required by the various states for the professional training of high-school

teachers is influenced by the requirements of the North Central Association. In like manner, the courses offered and prescribed by the institutions are influenced by the state requirements. Because of these facts the writer found the study somewhat limited; yet interesting data were obtained.

The amount of professional training required of high-school teachers in the first-class high schools of the various states in the territory of the North Central Association at the time this study was made varied considerably; in fact, the range was from eleven semester hours in Michigan to thirty semester hours in Ohio. This range, however, was made narrower on September 1, 1923, when Ohio's new law went into effect, reducing the amount of professional training required of high-school teachers in Ohio from thirty semester hours to twenty-four. Reports from the state departments of public instruction gave the number of semester hours in education required by the various states as follows: Ohio, 24; Colorado, 20; Iowa, 20; Arizona, 18; Kansas, 18; Missouri, 18; North Dakota, 16; Oklahoma, 16; Indiana, 15; Minnesota, 15; South Dakota, 15; Illinois, 12; Montana, 12; Nebraska, 12; New Mexico, 12; Wisconsin, 12; and Michigan, 11, Michigan being the only state with a requirement as low as that of the North Central Association. The average or mean number of semester hours of professional training required by these states was found to be 15.65. Only three states reported requirements of twenty or more semester hours, while eight states reported requirements varying from the mean—15.65 semester hours—by less than three hours.

The particular courses included in the requirements of the states varied greatly. Some states accepted any course offered by the college in the department of education, while other states specified or suggested particular courses or types of courses. Illustrations of these facts were found in the following states:

Arizona.—Requirements: psychology, 3 hours; philosophy of education, 3 hours; science of education, 3 hours; electives in education, 9 hours.

Michigan.—Requirements: psychology a prerequisite but not counted as education; practice-teaching and history of education must be included in the eleven hours required.

Missouri.—Requirements: psychology, general and educational, 6 hours; practice-teaching, 3 hours; electives in education, 9 hours.

Montana.—No courses specified.

Nebraska.—Requirements: child study, observation, methods, psychology, practice, and measurements. The number of hours which should be given to each subject was not stated.

Ohio.—Requirements: psychology, 3 hours; history of education, 3 hours; principles of teaching, 3 hours; school administration and management, 2 hours; observation and practice, 3 hours; special methods, 2 hours; educational psychology, 2 hours; electives in education, 6 hours.

Wisconsin.—Requirements: psychology, 3 hours; electives in education, 9 hours.

Table I shows the number of states which either prescribed or suggested various education courses for the professional training of the high-school teacher.

TABLE I
THE NUMBER OF STATES PRESCRIBING OR SUG-
GESTING VARIOUS EDUCATION COURSES FOR
THE PROFESSIONAL TRAINING OF HIGH-SCHOOL
TEACHERS

Course	Number of States
General psychology.....	11
Educational psychology.....	8
Observation and practice.....	8
History of education.....	6
Principles of education.....	6
General methods.....	5
School administration.....	4
Special methods.....	3
Philosophy of education.....	3
Principles of secondary education.....	1
Educational sociology.....	1
Educational measurements.....	1

Table II shows the courses in education prescribed by the institutions of higher learning for the training of high-school teachers. In most cases the number of semester hours required by the institution was the same as the number of semester hours required by the state in which the institution is located. The

number of hours required in education was greater in some of the state universities, however, than in the states in which these institutions are located. Likewise, the courses prescribed by the institutions are practically the same as those prescribed by the states. When the courses are ranked according to the number of institutions prescribing them, the order is almost the same as the order when they are ranked according to the number of states prescribing them. In like manner, the ranking of the courses according to the number of universities, colleges, or normal schools prescribing them affects the order but little. Four courses—history of United States education, vocational education, school hygiene, and educational classics—were prescribed by a few of the institutions in addition to the courses prescribed by the various states.

TABLE II

THE NUMBER OF INSTITUTIONS OF HIGHER LEARNING PRESCRIBING VARIOUS
EDUCATION COURSES FOR THE PROFESSIONAL TRAINING OF
HIGH-SCHOOL TEACHERS

Course	Universities	Colleges	Normal Schools	Total
General psychology.....	25	36	25	86
Educational psychology.....	23	32	23	78
Observation and practice.....	20	30	22	72
General methods.....	18	29	23	70
History of education.....	23	27	17	67
School administration.....	15	20	15	50
Principles of education.....	17	12	15	44
Special methods.....	16	16	8	40
Principles of secondary education.....	4	3	2	9
History of United States education.....	3	1	5	9
Philosophy of education.....		5		5
Educational sociology.....		1	3	4
Vocational education.....	1	1	2	4
Educational measurements.....	2	1		3
School hygiene.....	3			3
Educational classics.....			1	1

An analysis of the curriculums of the departments of education of the 179 institutions included in this study showed that there were 125 separate and distinct courses offered which differed in name and, more or less, in subject-matter. The percentage of institutions offering each of these courses and the average number of semester hours offered per institution were determined. An examination of the figures thus obtained revealed the fact that the range in the

percentage of institutions offering these courses was very wide—from .5 per cent to 78.7 per cent. Further examination showed that thirty-eight of these courses were offered by no more than one institution each; thirteen courses were offered by only two institutions each. On the other hand, there were thirty-two courses which were offered by eighteen or more institutions each. Table III lists the courses offered by 15 per cent or more of the institutions.

TABLE III
COURSES IN EDUCATION OFFERED BY 15 PER CENT OR MORE OF 179
HIGHER INSTITUTIONS

Course	Percentage of Institutions Offering Course	Average Number of Semester Hours Offered per Institution
Administration and supervision.....	78.7	3.325
Educational psychology.....	77.0	2.608
History of education.....	73.1	2.230
Special methods.....	68.1	10.888
Observation and practice.....	63.6	3.613
General psychology.....	57.0	2.105
Principles of education.....	48.0	1.606
Educational measurements.....	48.0	1.312
Child psychology.....	35.7	1.050
Methods of teaching in high school.....	33.5	1.062
Social aspects of education.....	30.3	.799
Mental tests.....	27.3	.763
Principles of teaching.....	26.8	.785
History of American education.....	24.5	.644
Philosophy of education.....	23.4	.531
Secondary and industrial school education.....	22.3	.652
History of modern education.....	22.3	.597
Principles of secondary education.....	20.1	.600
Psychology of high-school subjects.....	16.2	.410
The junior high school.....	15.6	.332
Introduction to education.....	15.0	.459

The average number of semester hours offered per institution ranged from .003 hours for one course to 10.888 hours for another course. Only ten courses had an average of one or more semester hours. This small number may be accounted for by the fact that no course was considered in this study unless it was listed as education by the institution which offered it. The course in special methods ranked much higher than the other courses because it consisted of the teacher courses in the various subjects. Institutions grant from zero to three hours credit in the various teacher courses,

but one may secure more credit in special methods by taking more than one subject.

Courses in logic, ethics, library science, aesthetics, general sociology, and principles and practices of scouting were offered in the department of education by a few institutions. On the other hand, there were many instances in which courses in "special methods" were given in departments other than the department of education. In most cases, credit for such courses was not counted as education. No account of these courses was taken in this study.

An examination of the 125 separate courses offered revealed the fact that these courses could be arranged into a few general groups. These groups are shown in Table IV together with the

TABLE IV

AVERAGE NUMBER OF SEMESTER HOURS PER INSTITUTION OFFERED IN THE GENERAL GROUPS OF COURSES IN EDUCATION IN 179 HIGHER INSTITUTIONS

	Average Number of Semester Hours per Institution
Special methods.....	10.888
Administration and supervision.....	7.208
Educational psychology.....	5.680
History of education.....	4.115
Observation and practice.....	3.613
Principles of education.....	2.740
General method.....	2.713
Educational measurements.....	2.473
General psychology.....	2.159
Sociology.....	1.083
Vocational education.....	.908
Philosophy.....	.830
Other courses.....	.922

average number of semester hours offered per institution. Included in "Other courses" are those courses not generally given in the department of education, such as logic, religious education, physical education, ethics, visual education, library science, educational progress, principles and practices of scouting, aesthetics, lectures of general interest, education of women, character reading, and Americanization.

HOW IS SUPERVISED STUDY DOING?

A. W. BURR
Beloit College

In the autumn of 1922 the writer visited the classrooms of more than twenty of the best high schools of Wisconsin and Illinois. In the following winter and spring he saw the work of a score of schools on the Pacific Coast from Los Angeles to Seattle and of a number of schools in the Rocky Mountain region.

The following uses of the long class period were observed: In one of the best coast schools a first-year Latin class had a seventy-minute period, one-half for recitation and one-half for study. The recitation occupied forty-five minutes. Then the next day's lesson was assigned for study. Within three minutes a number of the pupils were standing in the aisle, each waiting to ask some question of the teacher and not studying while waiting. One pupil was studying geometry, and many were occupied with studies other than Latin. One pupil stated after class that it was the custom to give the study time to the most pressing lesson of the day.

In a junior high school in which the supervised-study plan was in operation, the whole period of an American history class was spent in reciting on a set of questions assigned the previous day. Some members of the class, with their books open on their desks, were plainly reading ahead as each question was coming up in order to have an answer ready.

In an elementary science class where a too technical treatment of "skin respiration" made the recitation uninteresting, the teacher took the study period to read to the class Kipling's "How the Elephant Got His Trunk."

In an arithmetic exercise, books were passed to the pupils with the direction to work the problems on a certain page. As the class worked, the teacher helped those pupils who raised their hands. There was not a word to the class during the entire period about

procedure, use, or principles. Before the period was over, a number of the pupils were studying other lessons.

The writer's observations have forced him to the following conclusions:

1. In more than one-half of the classrooms in supervised-study schools the teachers use all of the period for recitation or for purposes other than study. Every time this occurs there is a loss to the pupils of the opportunity to study. They are robbed of their study time and must make it up out of school or in surreptitious work in recitation time or in the study periods of other classes. Such intrusion on study periods minimizes the importance of study, prevents the formation of regular habits of study, and makes the pupils feel that the school is not giving them a fair chance. And it is *not*. It is breaking their morale by taking from them what it pretends to give them.

2. Neither teachers nor principals seem to have worked out a technique for the best use of the study period. In but one case was there any suggestion as to how to attack the lesson or as to what supervised study is for. Uniformly, supervision consisted of a teacher sitting at a desk or passing about helping pupils in their difficulties. Often the instructor did not know whether the pupils were preparing her lesson or some other teacher's lesson. Both teachers and pupils seem to be left to their own ways of use of the study time.

3. The recitation work in the schools with supervised study was usually poorer than the recitation work in the schools where alternate periods for reciting and study prevailed. The work dragged. Classes were more inattentive. It was a case of too much time for the best work by both pupil and teacher. There was a plain deterioration in most schools. The mixture of recitation and study in one period without clear ideas as to the values and functions of each has damaged both.

4. Too many principals and superintendents either do not know what is going on in the classrooms under their supervision or lack a pedagogic sense of the values to the child of study, recitation, and teacher. It is one thing to adopt supervised study with all of the equipment that it requires, for which the people pay, and

another thing to adjust and administer the new system to the increased advantage of the pupil. As he recalls what he has seen and heard in some of the classrooms, the discerning visitor sometimes goes with indignation from a new school building costing a quarter of a million dollars. The teacher is only keeping school; she is ignorant of the values of the classroom, careless of the rights of the pupils, and blind to their reaction to what she does.

5. As the writer has tried to interpret his observations, this question has come back again and again: In the schools which assume the responsibility of the pupils' studying, have not the pupils been dropping more or less their personal responsibility for their lessons? The school has marked out all of their school time. They do what they can by hook or crook in the time allotted and in their minds pass the blame for poor work over to the school. There seemed to the writer to be that air in many high-school classrooms, and it affected also the requirements of the teachers. Is not neglect of thoroughness the natural psychological effect wherever responsibility is taken away? If so, supervised study as at present administered makes the pupils weaker and thus fails as an educational procedure. Only a larger conception of supervision than has yet been attained can save it. The teachers will have to do what they have never done—study the problem of children's study.

We have had supervised study in our schools for several years; yet college and university instructors who come in contact with the incoming classes are saying more generally and positively than ever, "Freshmen today do not know how to study." The writer is not a pessimist or a fault-finder, but the conditions observed in his year of school visitation and the inability of college Freshmen to study are a call to the principals and teachers of our schools to find out whether supervised study in their classrooms is a help or a hindrance to more study and to better ways and habits of study. The best gift of the school to the pupil is the ability to study. Study time is time sacred to study. "Supervised study" sounds well to parents and taxpayers. Do the words imply more than the pupils are actually getting?

Educational Writings

REVIEWS AND BOOK NOTES

The reconstruction of colleges and high schools.—In a volume¹ which reprints a paper entitled "A Modern School," published some time ago by the *Atlantic Monthly* and afterward by the General Education Board, and adds an essay of like spirit on the college, Mr. Flexner has attacked the problem of reconstructing the high schools and colleges of the country.

In the part of this book which deals with the college, Mr. Flexner points out and deplores the unsystematic character and purposelessness of much college training, its lack of insistence on thoroughness, and the corresponding lack of seriousness and responsibility on the part of the students. He emphasizes the fact that the premedical curriculum now commonly taken by those who plan to enter the better medical schools has corrected many of the defects of other college curriculums and recommends that for the majority of college students something of the same type be organized in engineering, law, theology, and business. The recommendation is supported by references to the experience of older civilizations and the forms of educational organization which they have devised.

Throughout the essay there is a recurrent vein of critical comment on the forms of class instruction and grading which are practiced in the colleges. There is a plea for greater freedom, at least for able students; there is a suggestion that some modification of the English pass and honors classification of students be worked out as a substitute for our ordinary American practice.

In the essay on the lower schools, Mr. Flexner has advocated a much greater emphasis on science than is common in American high schools. He would provide in the high school, as in the college, for less routine and more stimulation. The Lincoln School, which was the outgrowth of Mr. Flexner's pronouncement, is now well under way and may be expected to exhibit in a full and concrete fashion what can be evolved where freedom from traditions and ample equipment make possible a new start in the educating of young people.

The reader of these essays will accept without hesitation the criticism of present-day practices. Mr. Flexner has in an earlier work, as well as here, made a perfectly clear case against much that is to be seen in the way of shiftlessness

¹ Abraham Flexner, *A Modern College and a Modern School*. Garden City, New York: Doubleday, Page & Co., 1923. Pp. xviii+142. \$1.00.

in the colleges and lower schools. Most students of educational tendencies will accept the conclusion that the college must pay more attention to preparation—specifically organized and intelligently directed—for the duties of adult life. There will be much greater variation of judgments from this point on. Indeed, Mr. Flexner himself is far less clear when he depicts what is to be than he is when he points out the ineffectiveness of what has been. For example, suppose that we all accepted the model of the premedical curriculum as the best present exhibition of what a college should be. Could we, on the other hand, accept the doctrine that the best students are to be left largely to browsing and other types of free work? The premedical curriculum is, if we mistake not, one of the finest examples of rigid and effective control.

Here is the everlasting problem of the schools. How can we combine control with initiative, requirements with freedom, general training with effective preparation for the tasks of a highly organized society? The answers to these questions are very much in demand. They will be arrived at in part through discussion but much more through earnest and sympathetic experimentation in practical institutions. It is doubtless good for the institutions to be stimulated by discussions of their defects and by comparisons of their various divisions. Mr. Flexner's book is a very interesting contribution from this point of view.

CHARLES H. JUDD

Poetry for boys.—Too many boys conceive a real or an imaginary dislike for poetry, largely because their first contacts with this form of literature are unfortunate. They are introduced to the wrong poems or introduced to poetry in the wrong way. Realizing this, the compiler of a recent volume¹ has designed her book for three kinds of boys: the boy who does not care at all for poetry; the boy who doesn't know that he cares for poetry; and the boy who is lucky enough to have discovered the thrill that is in a swinging sea-song, a war poem, or a narrative ballad, and the inspiration of a fine thing finely said in poetry. The poems, are, with a few exceptions, well chosen for the purpose. They are objective, glorifying the more rugged virtues and reflecting a strong and wholesome philosophy of life.

The poems are arranged in four sections: "Outdoor Poems," "Poems of Peace and War," "Story Poems," and "Songs of Life." Since the book is intended not as a text but rather as a "companionable volume," the usual study-helps and editorial notes, which so often become barriers to enjoyment, are lacking. This fact, together with the attractive binding, will appeal especially to boys and to teachers who wish to get away from the old ideas of formal instruction in literature and who desire to bring their pupils into natural and delightful contact with poems, both old and new, which are within the range of pupil-experience and interest.

EDITH E. SHEPHERD

¹ *The Boy's Book of Verse.* Compiled by Helen Dean Fish. New York: Frederick A. Stokes Co., 1923. Pp. xviii+406. \$2.00.

A history of education in Porto Rico.—It is probable that the average member of the teaching profession knows little of education, past or present, in Porto Rico. Yet Porto Rico is a territory of the United States, and, as such, her problems, educational or otherwise, are a matter of concern to the American commonwealth. This island has developed since the Spanish-American War an American school system which has a background of four hundred years of Spanish control. Such circumstances lend significance to a recent publication¹ of Teachers College, Columbia University.

The volume is divided into two parts. Part I deals with the period of Spanish control from 1493 to 1898, and Part II takes up the system of education under the government of the United States from 1898 to 1920. Previous to 1820 education was an imitation of that of Spain, was administered by the church largely to the wealthy, and, in general, received little attention. From 1820 to 1865 some progress was made toward popular education under the control of the educational societies. The Organic Decree of 1865 attempted to establish a system of public instruction, but during the period 1865-80 little progress was made, due to the fact that education was used by the state as a means of accomplishing political aims. Following the 1880 decree educational conditions remained poor up to the time of the American occupation. However, the author reminds the reader at intervals that many criticisms of Porto Rico have been made on the basis of comparisons with the United States rather than on the basis of comparisons with Spain or another Spanish colony. He maintains that the educational conditions in Porto Rico in 1898 were as good as those in Spain and as good as could be expected of a Spanish colony. Before 1898 secondary and professional education had scarcely made a beginning in Porto Rico, and the influences resulting from such training came from teachers and natives who had been educated outside the island.

In Part II a chapter on "Educational Administration and Supervision" shows, that after the American occupation in 1898, a strongly centralized system was developed under a commissioner of education who was appointed by the president of the United States. The author favors this centralization of authority but with the condition that the position be kept free from political influences. It is pointed out in a chapter on "The Teaching Profession" that, as in America, the teacher is not the highly respected person of earlier days. The hope is expressed that the teaching profession may gain in permanence and professional spirit in the United States, thereby influencing Porto Rico for good. Elementary education is rather fully treated in three chapters. The types of elementary schools are rural, graded, night, and private. Coeducation is supported as having produced beneficial results for both boys and girls. The 8-4 system borrowed from America is criticized as unsatisfactory in furnishing the type of vocational training needed by the masses, and the

¹ John Joseph Osuna, *Education in Porto Rico*. Teachers College Contributions to Education, No. 133. New York: Teachers College, Columbia University, 1923. Pp. viii+312.

6-3-3 plan is suggested. However, at present the problem of Porto Rico is one of elementary education rather than of secondary or higher education.

A final chapter summarizes in an excellent manner some "Conclusions and Present-Day Problems." The author feels that Porto Rico with her bilingual population may furnish a meeting place for the students and scholars of the two Americas and Spain. He hopes to see Porto Rico evolve a culture of her own from an assimilation of the best of all of these influences. The appendixes contain some interesting material. The book seems to have been written under particularly favorable circumstances, since the author is a native Porto Rican of Spanish descent and has spent part of a year in Spain seeking a proper background for the problem. Although as nearly an impartial picture as possible is presented, throughout the work runs a thread of loyalty and devotion to the writer's native country. On the whole, the author makes a useful contribution to the history of education, and the book is worth the attention of the teaching profession.

CARTER V. GOOD

An elaborate story of democracy in the modern world.—During the last two years of the world-war the phrase "to make the world safe for democracy" was much used. No one seemed to know just what democracy was; yet there was a general feeling abroad that the world ought to be made safe for it regardless of what it happened to be. Fortunately for those interested in the historical aspects of democracy the phrase quoted set one individual to thinking, and the results of this thinking have now appeared in a volume¹ of considerable magnitude.

Mr. Penman's book is in reality three books in one. If published separately, they would be called "Democracy in America," 181 pages; "Democracy in France," 304 pages; and "Democracy in England," 229 pages. The reviewer sees no reason why the books could not have been published singly as well as all in one volume.

Democracy in the three leading democratic countries of the world is a form of government rather than a spirit of society or a state of society as it could well be considered. The story of how the irresistible movement of democracy began, what the forces were which led to its expansion and how it gradually emerged from the old society, and the course it took in England, France, and America is the substance of the volume. To the reader equipped with a good historical background of the three countries mentioned, the book will be a delight. Readers without this background will find themselves frequently wandering in a historical forest with few or no paths to the known world. In other words, Mr. Penman's volume will not leap immediately into the list of best sellers. It will probably have to be content with a small audience of well-read political scientists, historians, and a few laymen here and there.

R. M. TRYON

¹ John Simpson Penman, *The Irresistible Movement of Democracy*. New York: Macmillan Co., 1923. Pp. xii+730. \$5.00.

Games for French clubs.—Wherever emphasis is placed on the speaking knowledge of French, a French club should supplement the classroom instruction. To be successful, the club should give careful attention to the arrangement of the programs and should have a certain amount of guidance from the teaching staff. The programs must arouse and sustain interest and must break up the formal dignity common to the classroom; otherwise, the club is doomed to failure.

Mr. Hess has stated these facts clearly in a little brochure,¹ containing directions in French for playing seventeen games suitable for French clubs. He rightly contends that "by far the major portion of each meeting should be devoted to good, live, conversational games, where even the timid will be enticed into making use of the foreign tongue, where coldness will vanish, and where all will have a good time" (p. 2).

This excellent selection of games is based on the author's long personal experience with French clubs and supplements the list of games enumerated by Professor R. P. Jameson in his article, "Club and Extra-Class Activities" [*Modern Language Journal*, IV (March, 1920), 265-79].

The pamphlet should be in the hands of every French club organizer or adviser.

O. F. BOND

Secondary education in New England before 1865.—Some may entertain the idea that the modern high school is largely a product of the twentieth century and would be reluctant to admit that so remote a period as the first half of the nineteenth century has anything in common with the present system of secondary education. Also, it is sometimes maintained that the American scheme of instruction is largely borrowed from European sources. A recent book² sets forth some interesting facts concerning the influence of the period before 1865 on secondary education and shows the modern high school to be distinctly American in both organization and purpose.

The author states his purpose as follows:

The aim of this study is to present as fully as possible the facts concerning the origin and development of the high school in New England during the formative period of its history. At the same time attention is called wherever possible to those social and economic forces that affected high-school origins, theory, and practice [p. xi].

It is interesting to note the manner in which the data for the study of the problem were collected. Much of the necessary material could not be found in even the larger libraries, and, as a result, a personal examination of local manuscript records of school committees and town meetings was required. To simplify matters the superintendents of schools in the more important

¹ John A. Hess, *Some Games for French Clubs*. Boston: D. C. Heath & Co., 1923. Pp. 12.

² Emit Duncan Grizzell, *Origin and Development of the High School in New England before 1865*. New York: Macmillan Co., 1923. Pp. xvi+428.

towns and cities of New England were asked for definite information as to the character of the source materials available. On the basis of these replies the author selected a large number of important centers which he visited personally.

In an introductory chapter the Latin grammar school and the academy are discussed as the forerunners of the high school. Part I, "Origins of the High-School Movement," deals with the period of experimentation which began in 1821 with the establishment of the first high school at Boston and continued to 1840. Part II, "Expansion of the High-School Movement," traces the development of the several state policies from 1840 to 1865 with regard to secondary education. This period was concerned with the process of standardization and with experimentation in matters of detail rather than with the broad principles of high-school policy established in the previous period. Part III, "Evolution of the Essential Features and Practices of the High Schools of New England before 1865," explains the aims, admission requirements, curriculums, subjects of instruction, student activities, etc., of that time. A final chapter, "Significance of High-School Development in New England before 1865," summarizes the main points of the book in an excellent manner. The concluding paragraph is significant.

Hardly a feature of the present comprehensive high school can be named that did not exist, in some form, in the high schools of New England in the sixties. The aims of secondary education, the curriculum, the methods, and even the general organization, both curricular and extra-curricular, may all be traced to the early New England high school. Some of the most significant features of the twentieth century secondary school: the junior high school, the provision for individual needs, and the development of student activities all had a good beginning in 1865. The modern high school is not so different from its early New England prototype; it is only larger and more complex. The phenomenal growth of the American high school during the past sixty years, as in its first forty years in New England, has been due in large measure to its adaptation to the educational needs of an expanding democratic society [p. 363].

Because of the nature of the work, the volume is necessarily tedious reading in places. Numerous references and quotations from documents are given throughout the book. Ten illustrations and nineteen tables are included. The extensive bibliography is evidence of the large amount of research involved in the study. By personally examining and interpreting the source materials of a period concerning which adequate information has been lacking, the author has made a useful contribution to the history of education.

CARTER V. GOOD

*Algebra pro and con.—The Psychology of Algebra.*¹ by Edward L. Thorndike and others, is a series of miscellaneous articles which have appeared from time to time in such magazines as the *School Review*, *School Science and Mathematics*,

¹ Edward L. Thorndike, Margaret V. Cobb, Jacob S. Orleans, Percival M. Symonds, Elva Wald, and Ella Woodyard, *The Psychology of Algebra*. New York: Macmillan Co., 1923. Pp. xii+484.

the *Mathematics Teacher*, *School and Society*, etc., with which the reader may be familiar, supplemented by a few additional chapters.

The first chapter reviews the literature dealing with the character and composition of the high-school population and the relation of mental ability to continuance in school, and success in algebra. The conclusion is reached that pupils who choose algebra as a study are more intelligent than those who do not and that those who pass are more intelligent than those who fail. The second chapter discusses the uses of algebra. The authors find but little need for algebra in physics and chemistry. This is contrary to the experience of teachers of physics and chemistry who have always felt the need and importance of the mastery of algebra. Furthermore, a close examination of the material in these courses, especially the problems, reveals the need of more than a passing knowledge of algebra. In chapter iii the present and past conceptions of algebra are taken up, and the kinds of ability required of the students in working with formulas, equations, and problems are discussed. This is in conformity with the best of modern thought, and teachers should make themselves familiar with the ideas presented.

After this rather lengthy introduction of three chapters, the author discusses the psychology of problem-solving, the psychology of equations, the measurement and constitution of algebra, the arrangement of topics, the strength of algebraic connections, various features of learning, and individual and sex differences. Two chapters are devoted to new types of exercises and standard tests. These topics represent a series of problems in algebra rather than a psychological discussion of the subject.

In the discussion of the psychological phases the authors emphasize the dynamic aspect of the mind as a system of connections or bonds or elementary habits. They find that thought and reasoning are not forces opposing these habits but are these habits organized to work together collectively.

There are many suggestions which are especially valuable to makers of textbooks on algebra, and many of the problems presented are interesting, but the book might have been made of greater value to the teacher as an aid in teaching by discussing more of the common difficulties of a psychological character encountered by the student in his study of the subject.

C. A. STONE

Methods of teaching physics.—Teachers of high-school physics should welcome most eagerly any new and practical suggestions for stimulating interest in their subject. In a volume entitled, *How to Teach Physics*,¹ Professor Rusk of Northwestern College has undertaken to offer such suggestions and to point out how the course can be made more practical.

The experienced teacher or the new teacher who has had more than one year of college physics will find little new material in the book, but the novice

¹ Rogers D. Rusk, *How to Teach Physics*. Philadelphia: J. B. Lippincott Co., 1923. Pp. x+186.

can find many pertinent suggestions. Several chapters are given to the historical development of the science of physics, its aims and application, and the use of mathematics in expressing physical concepts and relations. Perhaps the greatest value in these chapters is the listing of references for those interested in reading the works of the earlier physicists.

One is surprised to find so much space devoted to the discussion of matters relating to classroom presentation which are treated in a somewhat similar manner in the usual high-school text. The pedagogical principles which are advocated will be familiar to everyone who has taken courses in education and who has taught a few months.

Three chapters offer practical suggestions: "The Laboratory Course," "Vitalizing the Physics Course," and "Apparatus and Equipment." The following items are discussed: how to make the experiments more interesting and more efficient, how to make the student self-dependent, supplementary projects, how to inspire greater activity, the construction and use of simple apparatus, what apparatus to buy when funds are limited, and the repair of apparatus.

The most important feature of the book is the emphasis on the fact that the teacher must organize the course into a few fundamental interrelated units and must strive constantly to show how physics can be applied to the explanation of the phenomena of everyday life.

CLIFFORD HOLLEY

Established techniques applied to the measurement of shorthand.—With the rapid development of the science of education it is inevitable that the techniques of educational measurement should receive a wider application. An indication of this broader use is the adaptation of the principles of standardized educational tests and scales to the construction of scales for the measurement of achievement in Gregg shorthand.¹

After a brief preliminary statement of the purpose and value of educational measurements in which he gives data known to most students of education, the author qualifies his problem by announcing that the scales presented are not suitable for prognostic purposes but are designed to measure achievement. This restriction of the problem does not signify that such a task is a simple matter, for the use of shorthand is a complex process involving several important functions which must be separated in order to be adequately measured. Hence the first step in this investigation was the reduction of the shorthand process to the four following components: reading ability, quality of writing, speed of writing, and knowledge of the system of shorthand.

The scales for measuring the ability to read shorthand and the speed of writing shorthand were devised after several unsuccessful attempts to construct

¹ Elmer Rhodes Hoke, *The Measurement of Achievement in Shorthand*. Johns Hopkins University Studies in Education, No. 6. Baltimore, Maryland: Johns Hopkins Press, 1922. Pp. 118. \$1.50.

proper measuring devices. In the case of the scale for measuring the speed of writing, the problem was to construct a device which would allow each pupil to work at his own rate of speed; in the case of the scale for measuring reading ability, the difficulty was to manifest this aspect in sheer isolation from other factors. In handling these difficulties the author displays considerable ingenuity in adapting the techniques employed in some of the standardized reading tests. According to the data presented, the scales exhibit a rather high degree of reliability. The results of the validation are not very satisfactory but are sufficiently favorable to warrant the acceptance of the presented standardizations as tentative until further administrations of the scales yield other results.

The scale for measuring shorthand penmanship was constructed by using practically the same methods as those employed in the creation of the hand-writing scales of Thorndike and Freeman. Eleven hundred and sixty-one specimens of shorthand penmanship were secured from experts and several classes in shorthand; these were sorted by five judges into five groups of various degrees of merit. The usual methods of sifting, selecting, judging, averaging of judgments, scaling, etc., were followed in producing the final scale of sixteen specimens. Graphs based on the data derived from the administration of this scale show a fairly normal distribution of scores for speed of writing shorthand but a skewed distribution of scores for quality. The latter condition is explained by the fact that the teachers using the scale had not been trained in the use of a quality scale.

The device for measuring the knowledge of the Gregg system is really a vocabulary and phrase scale. The vocabulary consists of the Ayres list of one thousand common words, and the five hundred phrases were derived from an analysis of shorthand manuals, business letters, and other germane material. From these lists ten forms of approximately equal difficulty were constructed. It is unfortunate that this scale was constructed before the appearance of Thorndike's more authentic word list.

The monograph is significant not only because it presents practical scales for measuring achievement in a subject where measurement is needed but also because it introduces the science of education into the whole field of shorthand instruction, for, out of the data secured in the course of the construction of these scales, the author offers conclusions which, if experimentally verified, would produce startling changes in the present status of shorthand instruction.

For the manner of presentation the author deserves unstinted commendation. The scales are relegated to appendixes, and the data are presented in modest tables and graphs strictly to the point of the accompanying descriptions. Furthermore, the author carefully eschews all overelaboration of statistical procedure, thus avoiding a chronic practice which clogs and surfeits so much of the current writing on educational measurements.

In providing a series of scales for aiding teachers of shorthand to measure the products of their instruction and in pointing the way to important investi-

gations in other problems of shorthand instruction, this monograph is a distinct contribution to the science of education.

HOWARD Y. MCCLUSKY

An elementary course in social science for teachers.—At the present time probably no school subject is receiving more attention, both within and without the teaching profession, than the social studies. Certain events within the past few years have created new interest in the problems of democracy, citizenship, and the organization of society. Just what should be taught is a question with many teachers, particularly those of limited training and those working in small rural schools. To meet this need and to furnish the teacher a desirable background in social science, a book¹ has been prepared by Charles E. Martz and John A. Kinneman.

The volume is divided into five parts. Part I, "The Science of Society," discusses briefly the folkways and codes of organized society. Part II is entitled "The Mores of Our Own Group." This topic occupies nearly one-half of the book in an exposition of the mores or codes of society and in a description of the great governmental institutions such as the political party, elections, the electorate, the executive, the judiciary, etc. Part III considers "Modern Social Problems," among which are the alien, physical and mental defectives, poverty, crime and criminals, public health, and the social survey. "Social Institutions," in Part IV, include the church, the school, and charitable and insurance organizations. Part V, "Sociology in Its Relation to Education," takes up such topics as the school as a social group, self-government and the socialized recitation, the teaching of citizenship, and guidance and vocational training. The two closing chapters discuss these principles when applied to the various grades.

The volume is intended not as a scholarly work for advanced students but to meet whatever shortages may exist in social science for teachers in training and for those teachers in the field who have had limited opportunities in such subjects. Instead of being divided into chapters, the book is really arranged in a series of forty-three lessons. Each lesson is supplemented by a few simple questions which aim to bring out the thought and to apply the content to some practical problem. In addition to this, topics for papers or reports and selected references are given. The appendixes contain a general bibliography and the course in community civics for the Pennsylvania schools. On the whole, the treatise should prove useful as an elementary text in teacher-training institutions and for reading-circle use.

CARTER V. GOOD

Famous operas retold.—There has always been such a wealth of standard works recounting the tales of opera in the form of synopses and in relation to

¹ Charles E. Martz and John A. Kinneman, *Social Science for Teachers*. Boston: Houghton Mifflin Co., 1923. Pp. xii+340. \$1.90.

their musical settings that there is a certain sense of relief from an enforced attitude of studious consideration in finding a book¹ which tells these same stories in easy, narrative form, with the emphasis on the story.

Mr. McSpadden has gathered up the essential elements of nineteen of the great operas and has told them in such a simple, conversational style as to make them full of interest and delight to young people as well as grown-ups. It appeals not only to one who follows music but to the lover of good stories. "The trappings of the opera-house fade away; the music becomes but a memory; and we follow these heroes and heroines of music out into the world of men and women" (p. v).

The stories of some of the greatest of the operas have been chosen: *The Nibelungen Ring* and three other operas by Wagner, two by Verdi, two by Humperdinck, and others by Balfe, Bizet, Gounod, Beethoven, von Flotow, Thomas, and von Weber. The author has avoided intricacies of plot and has told the stories with a cleanness and freedom which make pleasurable reading for either the opera-goers or those who wish only the story.

The book is enriched with twelve illustrations in full color.

H. R. VAIL

How the school may assist in Americanization.—The public school must now be conceived of not merely in terms of the education of the child but also in terms of its relation to the broader problems of the community. One of these problems is the Americanization of the unassimilated foreign-born. A concrete program for the part to be played by the school in such work is presented in a bulletin² of the Bureau of Education.

The purpose of the author of this bulletin is to show what is being done throughout the country in the way of Americanization by indicating successes and failures in the experiences of those who have been working on a solution of this problem. A distinct achievement is effected in thus utilizing the consensus of experience and in giving detail to a program of Americanization in which the school is obligated to assist.

The character of the content may be judged from a review of the topics treated. Chapter i defines the problem of Americanization and shows the need for action on the part of the school. Chapter ii discusses as Americanization agencies the evening school, the home teacher, the Americanization cottage, the community center, recreational opportunities, the newspaper, and industrial classes. In this chapter the author also gives examples of the types of activity in various cities, including such items as the subjects taught and their objectives at different levels of instruction and a tentative schedule for their administration.

¹ J. Walker McSpadden, *Stories from Great Operas*. New York: Thomas Y. Crowell Co., 1923. Pp. viii+394. \$2.50.

² E. J. Irwin, *An Americanization Program*. Bureau of Education Bulletin No. 30, 1923. Washington: Bureau of Education. Pp. 60.

Chapter iii presents a bibliography of forty carefully selected references on the subject of Americanization, and chapter iv describes the practical administration of an Americanization program by giving advice on the organization of the school, the selection of the teaching staff, the duties of the supervisor, exercises for Americanization pageants, and incentives for attendance.

Throughout the bulletin the author's aim is to show the need of Americanization from the point of view of the superintendent of schools and the steps the school should take in making its contribution. School administrators will find the treatment helpful in solving local Americanization problems.

HOWARD Y. MCCLUSKY

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